Australia, from Port Macquarie to Moreton Bay. With descriptions of the natives, their manners and customs, the geology, natural productions, fertility, and resources of that region; first explored and surveyed by order of the colonial government / By Clement Hodgkinson.

C. Pollock

1844

Nov. 1844.

PREPARING FOR PUBLICATION,

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BETWEEN THE YEARS 1837 AND 1843:

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MDCCCXLV.

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October, 1844.

PREFACE.

In consequence of the unexampled depression which has now for so long a time paralysed the colony of New South Wales, in common with the other Australian settlements, and the melancholy truth that few occupations can now be profitably carried on there; many persons in England have arrived at the conclusion that the state of Australia is quite hopeless.

Having made a visit to my native country, after a residence of five years in New South Wales, during which time I had been engaged, either in surveying for the Government a district beyond the limits of location, in the north-eastern part of the territory, or in farming pursuits, I found that many of my friends, who took an interest in the colony, were very desirous of knowing whether there was any truth in the statement, that the natural resources of that part of Australia, were not of a nature to admit of the colonists advantageously competing with other countries, in any one article of production.

As this notion seemed to be very prevalent among those who have suffered from their connection with New South Wales, I have been induced to write the following pages during my limited stay in England, in the hope that they might not prove altogether

useless to those persons who desire to know the present state of that colony, and how far her natural resources will be henceforth available for the production of articles of export.

As the north-eastern part of the territory of New South Wales, from Port Macquarie northward, as far as the country has been explored past Moreton Bay, is of a very different character to the other parts of the colony, with regard to its geological structure, soil, vegetable productions, and climate, I have given a description of it; partly with a view of shewing its adaptation for the culture of many of the productions of tropical countries, and partly to endeavour to rectify the prevailing opinion of many persons, that all parts of New Holland are distinguished by a scantiness of vegetation, and aridity of soil, exceeding that in any other country.

The only central part of New South Wales, which bears any resemblance to the north-eastern part of the territory, is the isolated district of Illawarra, which has always astonished those who have visited it, by the wonderful luxuriance and tropical aspect of its vegetation. The cause of this unusual aspect is entirely attributable to the vicinity of high ranges near the coast, and their peculiar geological formation. The rich soil, covered by luxuriant jungles, of the north-eastern part of the territory, is also more owing to analogous causes, than to the warmer climate. Although the dense vegetation which covers the rich soil in this part of the colony, entirely

precludes all possibility of its ever being made use of for the ordinary colonial productions, yet the time might arrive, in some future generation, when much of this kind of land might be checquered with plantations of rice, tobacco, indigo, cotton, sugar-cane, and mulberry trees.

I have divided this work into four parts. The first contains a description of the MacLeay river, and two smaller rivers, between that stream and the Clarence ; these rivers being included in the district I was ordered to survey, I have been rather prolix in my details concerning the geological formation of the surrounding country, and its influence on the climate, soil, indigenous vegetation, and objects of culture, which I was able to see displayed, as I possessed a share in a station on the banks of the MacLeay, where we successfully cultivated a large tract of land for some years.

In the second part, I have described the river Hastings, and the Port Macquarie district, the Clarence, Richmond, and Tweed rivers, and the country in the vicinity of Moreton Bay and the Brisbane river.

The third part contains an inquiry into the causes of the depression, and monetary panic, which have so long afflicted the colony of New South Wales. I have also examined whether any future profit will attend the investment of capital in flocks and herds, when considered as only valuable for the exportable articles of tallow, wool, or hides ; and have annexed

some calculations on the subject. Agriculture, carried on for the production of wheat, maize, &c. —and the cultivation of the vine, with a view to the production of wine and brandy, are next analysed in the same manner, in order to ascertain whether these occupations can be profitably carried on with a view to the exportation of their products, independent of any colonial demand for them.

The last part contains a few desultory observations on Australian field-sports, and the incidents of a bush life, with anecdotes of the Aborigines, &c. &c.

In offering to the public this work, which will not be published until I am again traversing the ocean on my return to Sydney, I must crave the reader's indulgence for the defects which it may contain; for being engaged in many other affairs during my limited stay in England, I have not been able to find time to render it as complete as I could have wished.

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NEW SOUTH WALES.

PART I.

The entrance of the MacLeay River—Trial Bay—Granite headlands—A digression on the nature and appearance of the alluvial jungles or brushes, on the banks of some of the coast rivers of New South Wales—Probable causes of the tropical aspect of the vegetation, and the inexhaustible richness of the soil, which characterise these brushes, especially in the northern districts—Extensive swamps near the estuary of the MacLeay—Successful experiment with rice—Agricultural stations of the squatters—Cedar sawyers—Prevalence of ague at the lower MacLeay—Village of Kempsey—Dongai Creek—Beautiful fertile ranges—Their geological formation the most favourable of any for vineyards—Limestone caverns—Rich fertile well-watered country on the south side of the MacLeay—Densely wooded lofty mountains—Tremendous cataracts and basaltic precipices—Extraordinary altitude of the bed of the MacLeay above the level of the sea, between the cataracts and its sources—Fine table land country of New England—Coldness of the climate from the great elevation of the country—The Nambucca River—Survey of its navigable arms—Murderous attacks of the native Blacks on the Cedar sawyers—Coohalli Creek—First appearance of Pine here, in about 30½° S.—The Bellengen River—Journal of an excursion over the mountains towards its sources—Journal of subsequent examination of the country in the vicinity of its mouth.

The MacLeay River, and the adjacent country to the north of it, having been the districts allotted to me, by the Colonial Government, to explore and

survey, I will commence my observations on the northern part of the territory of New South Wales, by a minute description of that river; especially noticing those peculiarities in the geological formation, soil, and botanical productions, which distinguish the MacLeay from the rivers in the south country.

The general character of the country on the banks of the other rivers, north of Port Stephens, viz.: the Manning, the Hastings, the Clarence, the Richmond, the Tweed, the Brisbane, &c. being, with some little variation, nearly similar to that at the MacLeay, a more brief notice of their natural features will suffice.

The MacLeay river disembogues in Trial bay, lat. 30° 40′ S. The entrance is obstructed by a bar of sand, the position of which is not unfrequently altered by floods and other causes; it has, however, generally sufficient water on it for vessels drawing eleven feet. Trial bay is a good roadstead, being completely protected from all winds but those between north and east, from which quarters the winds are seldom strong. The basis of the country in the immediate vicinity of the mouth of the MacLeay river, is a pink granite, overlaid occasionally by dark-coloured rock of trap formation; a few miles west of the bar, this granite rises abruptly to an altitude of nearly two thousand feet in the Yarra-Hapinni range; which is the termination of the range dividing the basin of the

MacLeay river from that of the Nambucca river to the north of it. Mount Yarra-Hapinni is densely wooded to the summit, with an almost impenetrable forest of gigantic trees, but its spurs towards the sea descend in beautiful verdant park-like declivities to the beach, the grass growing luxuriantly, even within reach of the salt spray of the ocean. At the south extremity of Trial bay, the granite again rises in a lofty conical grassy forest hill, to which I gave the native name of Arakoon; its gullies are enveloped in brushes of bangalo palms, cabbage palms, and gigantic ferns.

In ascending the MacLeay river, from its entrance, the first objects which meet the eye on both banks are extensive mangrove flats, with thickets of myrtle, palm, and swamp oak, which, a few miles further on, are superseded by dense alluvial brushes, rising like gigantic green walls on both sides of the river.

I must here make a digression to attempt to convey to the English reader some idea of the very peculiar appearance of that kind of vegetation to which the colonists have assigned the unmeaning name of *brush*. It grows on the richest alluvial land, and consists of trees of almost endless variety, and very large dimensions, totally differing in appearance from the ordinary Eucalypti and Casuarinæ, which grow on the common open forests of Australia, for the brush trees in general possess a rich umbrageous foliage of bright shining green.

The popular names of the most remarkable brush trees are as follow:—Red Cedar, White Cedar,* Mahogany, Tulipwood, Rosewood, Ironwood,† Lightwood, Sassafras, Corkwood, the Australian Tamarind,‡ Box, the numerous and elegant varieties of trees of the Myrtle genus,§ the Australian Palms, and the Brush Fig-tree, which, from being originally a mere creeper, requiring the support of another tree, gradually envelopes it, and attains occasionally such a size, as to cause it to rank among the largest vegetable productions in the world. But the peculiar appearance of the *brush* is principally caused by the countless species of creepers, wild vines, and parasitical plants of singular conformation, which, interlaced and entwined in

* Red cedar, *Cedrela Toona*, is quite different from the Lebanon cedar, *Pinus Cedrus*, and also from the American Pencil cedar, which is a species of juniper. The White cedar, *Melia Azederach*, appears to be identically the same as the Pride tree of Asia. The foliage of both red and white cedar is deciduous.

† The Australian trees, popularly named Rosewood, Mahogany, &c. belong to totally different genera from the American trees of those appellations, the names having been given from the similar appearance of the wood.

‡ This very beautiful tree is dissimilar in every respect to the Tamarind tree of the Indies; it has obtained its popular appellation from the grateful acidity of its fruit, which hangs in large clusters of transparent, amber-coloured berries, of the size of small grapes.

§ The berries of several trees of the Myrtle tribe are edible, and are sometimes used for tarts, preserves, &c. by the settlers.

inextricable confusion, bind and weave together the trees almost to their summits, and hang in rich and elegant flowering festoons from the highest branches. The luxuriant and vigorous character of the brush, on alluvial land, in the northern part of the territory of New South Wales, cannot be surpassed in any tropical region. When this brush land is cleared, and cultivated, its fertility seems inexhaustible. For even in the old settled parts of the colony, near Sydney, the productiveness of the thickly wooded alluvial flats is most wonderful; thus, on the banks of the Hawkesbury, there is some land of this description, which has now been cultivated for forty years, without intermission, and without any renovating application to the soil; and it has been observed by Mr. Wentworth, the present member for Sydney, in the New Legislative Council, that, on the banks of that river, the same acre of ground has been known to produce, in the course of the same year, fifty bushels of wheat, and a hundred bushels of maize, and yet the settlers have never any occasion for manure.* I have also been informed of fourteen successive crops of wheat having been reaped off the same piece of ground at Illawarra, without manure, and on ground, too, out of the reach of flood.

* Notwithstanding the richness of the alluvial soil on some parts of the banks of the Hawkesbury, it is not a good agricultural district, as the settlers there frequently suffer from the two opposite evils of successive droughts, and destructive floods.

Facts such as these will appear almost incredible to the English, or even the Canadian agriculturist; several causes may be assigned for this more than ordinary richness in alluvial soils in some situations on the east coast of Australia.* First, the more than ordinary quantity of renovating substances which have been deposited on them during heavy floods. For in those districts in which we find the most of this rich brush land, (the Illawarra country, the Williams and Paterson rivers which join the Hunter, and all the northern rivers), the mountain ranges are eminently formed, from their height, steepness, and narrow shelving ravines and gullies, to effect the rapid transportation of rain-water to the lower grounds; and as the Australian climate is characterised by long intervals of fine weather, followed by sudden and violent rains, the decayed vegetation on the ranges becomes desiccated and pulverized by the heat during the dry weather, or else is reduced to ashes by the frequent bush fires, and is therefore in a state most favourable for being easily washed away by heavy rains, and subsequently deposited on the alluvial lands.

The geological formation of the basins of different rivers in Australia, exercises also a most

* Dr. Lang has travelled extensively in America since he published his work on New South Wales. He has said, since his return to Sydney, that he saw no land in the United States superior in fertility and productiveness to that at many parts of the lower Hunter and its tributaries.

marked influence on the comparative fertility of the soil of their respective alluvial lands. For instance, in examining a well dried handful of alluvial soil, taken from the banks of the MacLeay river, with a microscope, I saw in it minute particles of felspar, and quartz, and little thin laminæ of mica; thus at once indicating, that in the basin of this river there is a preponderance of primitive rocks. Now soil containing minute particles of these kinds of rocks, would, of course, have different qualities from soil in which particles of other kinds of rock, such as sandstone, predominated.

Professor Jameson has made the following apposite remarks on the different qualities of alluvial soils produced from this cause.—"The varieties of *transported soil* depend chiefly upon three circumstances: first, the nature of the rocks from which they are derived; 2ndly, the quality and effect of the moving powers; 3rdly, the changes which they may have undergone after their formation. The origin of the materials, which enter into the composition of transported soil, has already been considered. From their difference may be easily explained why soil generated from the debris of primitive crystalline rocks, has different qualities from soil which has been derived from strata of sandstone."

There is, indeed, scarcely any country where the surface rocks exercise so great an influence on the fertility of the soil, and the aspect of the vegetation, as in Australia. Thus, sandstone, the all-pervading

rock of the central part of the colony, and of which the Blue Mountains are composed, from the Shoalhaven to the Liverpool range, except in a few places where it is overlaid by whinstone, is always indicative of barrenness and sterility; whilst nearly all the varieties of trap, with the clay slates, (so frequently met between the Hunter and Moreton), limestone and granite, are generally accompanied by good soil, and a more luxuriant vegetation. Thus the richness and tropical aspect of the isolated district of Illawarra, is principally attributable to the whinstone, of which the abrupt range, which separates it from the surrounding country, is composed; whilst a few of the higher summits near Sidney, such as Hay, Tomah, and Warrawolong, which consist of trap, are crowned with lofty trees, and stand conspicuously prominent amidst the miserable sandstone ridges around them. Sir Thomas Mitchell, in the valuable dissertation on the geology of the eastern part of New Holland, given in his interesting work, has observed, that, "by a little attention to the geological structure of Australia, we learn how much the superficial qualities of the soil and productions depend upon it, and where to look for arable spots amid the general barrenness." He also frequently alludes to the sterility of the country wherever sandstone occurs, whilst he observes, that trap forms an excellent soil on decomposition. Captain Sturt, also, was much struck with the apparent connection between the geology and vege-

tation of Australia ; and he observes, that this connection was so strong, that he had little difficulty, after a short experience, in judging of the rock that formed the basis of the country over which he was travelling, from the kind of tree or herbage that flourished in the soil above it.

Begging the reader to pardon this long digression, I will now continue the description of the MacLeay river. It is navigable for vessels of fifty or sixty tons, to a distance of thirty-four miles from its bar, the water being of a good depth, except at Shark and Pelican islands, where sand flats extend across the river, which can be passed by vessels only at high water. The reaches of the river are long and straight, averaging about a quarter of a mile in width, and flanked on both sides by huge walls of the dense brush I have just now described. These borders of alluvial brush land on the banks of the river, are generally half a mile, or a mile wide, and are then backed by extensive swamps of many thousand acres in extent, whose verdant sea, of high waving reeds and sedge, stretches away to the base of the distant forest ranges. There are several lagoons in these swamps, and stagnant water is very generally diffused over their surface. Their soil is very good in some parts, and rice would probably grow in them very well ; for Richard Oakes, Esq. the late Commissioner of Crown Lands for the MacLeay river, planted a small quantity of rice at his station, situated on the

verge of Clybucca Swamp, and the experiment was very successful. The continuous brush renders the aspect of the lower part of the MacLeay very monotonous to the admirer of picturesque scenery; however, an occasional glimpse of the azure tinted peaks of the distant mountain ranges, with green islands covered with palms, now and then varying the uniform sameness of the reaches of the river, not to speak of the air of cheerfulness imparted to the scene, by the large flocks of aquatic birds, of wonderful variety, all busily engaged, and fish leaping out of the water in every direction, renders an excursion on the waters of the MacLeay pleasant enough.

At the distance of twenty miles from the mouth of the river, and from thence to the point where the river ceases to be navigable, the brush land is interspersed with small alluvial plains, clear of trees, and varying in extent from fifty to a hundred acres. These clear patches of ground possess all the exuberant fertility of the brush land, and have now been cultivated for several years by squatters, (the MacLeay river being beyond the boundaries). This part of the river, however, has the great drawback of giving ague to those residing there, which is not to be wondered at, when one considers the immense extent of the surrounding swamps. This disorder was particularly prevalent among the cedar sawyers, who lead a life, compared with which, the life of the *lumberers*, or wood-cutters in Canada, is civilization

itself. These men are generally convicts, who have become free by servitude; they live in pairs in the dense dark brushes; their habitation being merely a few sheets of bark temporarily piled together, as they are continually moving in search of fresh cedar. Here they live exposed to the myriads of noxious insects with which the brush abounds, whilst not a breath of air can reach them through the entangled mass of surrounding vegetation.—The cedar dealers furnish them from time to time with salt provisions, flour, tea, and sugar; and every three or four months the sawyers travel down to the cedar dealers, who live at the mouths of the rivers, for a settlement of their accounts. As these latter individuals are not remarkable for delicate scruples of conscience, they generally settle the balance due to the sawyers in a very summary way. They take care to have a good assortment of clothing, tobacco, &c. in their huts, with which they furnish the sawyers at an advance of about three hundred per cent. on the Sidney prices: this, with a cask or so of rum and wine, to enable the sawyers to have a fortnight's drinking bout, generally balances their accounts. The scenes I have witnessed at the MacLeay river, on these occasions, surpass all description. Men and women, (for many of the sawyers have wives), lying day and night on the bare grass in a state of intoxication, and only recovering to renew their orgies; casks broken in, and the contents passed round in buckets; men fighting;

native blacks, who have been supplied with liquor, yelling and screeching like demons, under the influence of alcohol. Such are a few of the accompaniments of the cedar sawyers' drinking bouts. At length, when they have drank enough to *balance their account*, they wend their way once more to the brushes with their rations, there to remain until the next time of settlement.

The cedar is cut in square logs, on which the cedar dealer strikes his initials with a branding hammer; the logs are then launched into the water by the aid of bullocks, and afterwards rafted down to the vessels to be conveyed to Sydney. The cedar is employed in Sydney for every purpose to which deal is generally applied; and is also used for all kinds of cabinet work, as it is of a handsome grain and colour.

Twenty-eight miles from the mouth of the Mac-Leay, is the small village of Kempsey, on the south bank of the river, at the termination of the northern boundary of the county of Macquarie. It consists of several good brick-built cottages, an inn, a store, and police station. Mr. Sullivan has established a very fine fruit garden here. The fruit trees, of all descriptions, have arrived sooner at maturity, and grown with greater luxuriance, than in any other garden I have seen in the colony. Not far from Kempsey is the station in which I lately possessed a share; the portion of alluvial plain that we cultivated, has now been under the plough for upwards

of six years, producing two crops a year;—maize, followed by either wheat, potatoes, sugar loaf cabbages, or swede turnips. Our crops of cabbages and turnips, which we cultivated for the pigs, were nearly twice as abundant as good crops in England. Our potatoes were large, and the crops always abundant; but the quality was very indifferent, as they possessed a strong earthy flavour, the ground evidently being too rich for them. Wheat yielded good crops in dry seasons; but when the spring was moist, it grew as luxuriantly as reeds, and consequently there was not much grain. Maize, whether the seasons were wet or dry, was a never failing crop. The greatest quantity harvested on the plain we cultivated, was at the rate of seventy-five bushels per acre; other settlers, however, in the neighbouring Port Macquarie district, have informed me that they have had one hundred bushels per acre. The cause of our crops not being greater, was probably owing to our planting pumpkins between the rows.* The ground was twice flooded during the time that I lived at this station, but the floods did not occasion much detriment to the standing corn, our only loss being a few cabbages and turnips.

Directly the tide loses its influence in the river it ceases to be navigable any farther, even for small boats; and it now assumes the appearance of a rapid stream flowing over beds of shingles, a quarter of a

* Tobacco also grew with much greater luxuriance than at the river Hunter.

mile wide, composed of pebbles of granite, limestone, beautiful crimson jasper, greenstone, basalt, quartz, &c. The alluvial brushes on its banks are now frequently superseded by park-like forest ground, verdant rocky eminences, and luxuriant grassy flats of the greatest richness, lightly timbered with Apple trees, (*Angophora lanceolata,*) whose gnarled branches, and light green foliage, resembling that of the English oak, render it the most picturesque forest tree in Australia. Several small tributary streams now begin to join the river. The first we meet, on the south side, is Dongai Creek. In the narrow valley of this stream, the land is of the richest quality possible, consisting of a narrow border of alluvial flats, covered with broad-bladed grass, growing breast high, and with a few large blue gum trees scattered so far apart as to offer no impediment to immediate tillage. All the squatters on this stream have, in consequence, brought patches of ground under cultivation. Dongai Creek is hemmed in on both sides by fertile ranges, well clothed with grass, and lightly wooded; apple trees being the predominating trees on their lower slopes. The scenery is often very pleasing; the ranges rise in smooth round cones, and their sloping sides, covered with bright green verdure, contrast strongly with the dark glistening green of the brush vegetation, which occasionally invades some of the hills. The stream itself, of crystal brightness, rushes rapidly through the glen, over a bed of large pebbles, and

frequently forms diminutive cascades over opposing rocks; this, with the magnificent trees, and beautiful flowering creepers, forming natural arches, with a glimpse of distant hills, softened and blended with the deep azure of an Australian sky, cannot fail of affording gratification to any one who can admire nature unadorned by art. The ranges of hills in the neighbourhood of Dongai Creek, are principally composed of clay-slate, and other soft slaty rocks. Granular limestone and marble frequently occur, which formation contains numerous caverns encrusted with stalactites. Some of the ranges were composed of a rock which I thought might be porphyritic trap. The limestone ranges are generally covered all over with brush, bearing a great resemblance to that on alluvial land, the trees being of large dimensions, and interwoven with creepers; turpentine, (*Tristania albicans*,) iron bark, (*Eucalyptus resinifera*,) box,* and myrtle trees, being the prevailing timber.

The soft slaty ranges just mentioned, are very general in the basin of the MacLeay, especially on the south side of the river, the strata form a considerable angle with the horizon, and their edges are almost in every instance more than usually disintegrated and decomposed, forming, in consequence, a

* The tree called box in the northern districts, is totally dissimilar to the tree so called in the interior districts of Australia; the former is a tree of very large dimensions, and umbrageous foliage.

rich loose soil, on which the grass is generally comparatively better than on ranges of other formations. The clay-slate ranges rise in smooth, round, waving summits; they are not in general thickly wooded, and would be pre-eminently suitable for the growth of the vine. It is well known that scarcely any thing exercises so much influence on the quality of wine, as the nature of the rocks and soils among which vines are planted. According to the best authorities, clay-slates seem peculiarly favourable for vines. Thus Albertus Magnus has observed, "that the vines thrive well in earth which is mixed with fragments of black roofing slate." And Humboldt remarks, "that the vines which grow upon the mountains of the valley of the Rhine, consisting of *black clay-slate*, afford a most excellent wine." Dr. Adam, in his remarks on the rocks and soils of the celebrated Constantia vineyards at the Cape of Good Hope, notices also how well the vine thrives in a soil produced by the decomposition of *clay-slate*, and *mixed with the fragments of it*.

I have already observed that many caves are met with in the limestone formation at Dongai creek. Mr. Ralfe and myself examined a great number, which he found near the summit of a heavily wooded, brushy range, in the vicinity of Lieutenant Baxter's station. They were full of the stalactites ordinarily met with, but we could discover no traces of ancient organic remains. In the hills at the sources of Parabel brook, I examined a cave of rather singular

conformation. Its entrance was in the middle of the grassy sloping hollow, the waters of which entered the mouth of the cave. The first chamber was tolerably lofty, and illuminated by a small aperture overhead, resembling a skylight, so hidden by grass outside, that if any one of us had chanced to pass that way, before entering the cave, he would have probably fallen through it. At the extremity of the first chamber, was a narrow perpendicular hole, resembling the vent of a chimney. On descending this *à la ramoneur*, we passed through a narrow lofty passage, fantastically adorned with stalactites, until our further progress was arrested by a perpendicular cleft, too small to get through. On breaking through the stalagmitic crust, forming the floor of the most remote passage, I found one bone evidently belonging to a recent animal, as the nature of the rock (mountain limestone) was not such as to lead me to expect the discovery of any ancient organic remains.

Tracing the MacLeay upwards, from Dongai Creek, we pass a great number of squatting stations, belonging mostly to retired officers. The country they occupy as cattle runs is abundantly watered, independently of the river, by a vast number of permanent chains of small ponds, and water-courses; the grass is good, but the country available for grazing extends but a very few miles back from the river, especially on the north side, as the ranges soon become lofty and serrated, rising one beyond

the other in endless succession, universally covered with dense brushy forest, and intersected by innumerable ravines and gullies worn by torrents.

At Captain Joblin's station, a small brook joins the river on the south bank, to which the stockmen have given the designation of Hindmarshes Creek, and which Mr. Ralfe has altered to the native name, "Parabel." The land surrounding this little stream is of great richness, its physical aspect resembling that of Dongai Creek; the fertile, lightly wooded ranges which confine it are covered with a rich mould, and would be admirably adapted for vines. On this brook are several out-stations, belonging to Major Innes of Port Macquarie and Major Kemp. Beyond this stream, the ranges on the north side of the river form steep, high, rocky banks, rising abruptly from the water, and frequently attaining an altitude of several hundred feet above the river; the back country being very hilly, densely wooded, and intersected by narrow ravines, and brushy hollows, containing rugged water-courses. A few miles higher up the river a razor-backed range, covered to the summit with a dense brush of lofty trees, rises to an altitude of 3000 feet above the level of the sea, on the north bank of the river; at its base flows a large brook called Henderson's Creek, the bed of which is worthy of notice, as its pebbles and gravel consist almost exclusively of triturated quartz. Henderson's Creek is the highest point up the MacLeay river,

to which, in my capacity of Surveyor to the Government, I carried the subdivision of the land into blocks and sections; the country on the north side of the river being now so mountainous and brushy as to be quite unavailable. On the south side of the river, the country, although hilly, is still good, consisting of apple tree and blue gum flats, of the richest soil, and lightly wooded, park-like mountain ranges, affording excellent pasturage for sheep. The ranges hereabout are mostly composed of clay-slate. A very soft, red, schistose rock, the strata of which are nearly vertically disposed, is very frequently met with on the river banks; the surface of this rock is quite disintegrated, and pulverized into minute, angular fragments, and these debris having become intimately combined with the vegetable mould, the result has been the formation of a rich, loose soil, well covered with grass, and which would be, no doubt, eminently suitable for vines. Between Parabel Brook, and Henderson's Creek, the bed of the river consists in several places of a hard, black rock, of trap formation. Stations continue up the river as far as Conderang Creek, which is about thirty miles beyond Henderson's, the grazing country being confined by the mountains to the mere banks of the river, and its tributary brooks. Above the junction of the MacLeay river with the Apsley, the scenery assumes a grand alpine character; both rivers hurry along rapidly descending beds, through

narrow glens of frowning precipices, 3000 feet in elevation, whilst the surrounding mountains frequently attain an elevation of 6000 feet above the level of the sea. Tremendous cataracts are of continual occurrence; at one of them the whole river has a perpendicular fall of 250 feet, and after raging in a furious torrent, half foam and vapour, along a steep, inclined plane, it again dashes down another perpendicular fall of 100 feet, the total descent of its waters in this short distance being, probably, little under 500 feet. The sublimity of these falls cannot be surpassed by the finest waterfalls of the Alps, especially when the MacLeay is swollen by rain;—the untrodden forest crowning the towering precipices, the dazzling spray, and boiling foam, and the mighty roar of the torrent, reverberating with a deafening sound through the narrow glen, cannot fail to strike the spectator with admiration.

The geological formation of this part of the MacLeay river is principally basalt; it is characterized by lofty mountains, rent with perpendicular fissures, and faced with lofty precipices. After tracing the river MacLeay upwards, through this rugged country, its bed rising rapidly to a very considerable elevation above the sea, we at length emerge on a gently rising table land. From this point to its sources, the MacLeay river, and the scenery on its banks, are totally different to what I have hitherto described, owing to the difference of temperature,

occasioned by its great altitude above the level of the sea. In fact it is now considered as part of the New England country, and its features are exactly similar to the New England streams, flowing west to join the Peel river; smaller trees sparingly scattered over pasturage of quite different aspect to that on the lower MacLeay, and scrubs of Acacia pendula, now characterizing the scenery.

There are several sheep stations on the upper branches of the MacLeay and Apsley rivers, but such is the rugged mountainous country intervening between them and the lower MacLeay, that they have never had any communication with it, or the settlers on it. They have, consequently, communicated with Sydney by way of Liverpool Plains and the Hunter; the land journey they had to perform to reach Maitland being upwards of 200 miles. Mr. Ralfe, however, when Government Surveyor for the district of Port Macquarie, discovered a road from that place over the mountains to the table land of New England; and owing to the exertions of the inhabitants of Port Macquarie, aided by the Colonial Government, a road, practicable for wool drays, was completed last season; and the wool of the table land settlers brought down by it to the town, and conveyed to Sydney in the steamer, which makes weekly trips to Port Macquarie. According to Mr. Ralfe, some parts of the New England mountains are 6000 feet above the level of the sea. It is one of the best sheep districts in the colony;

and the temperature of the air is, of course, proportionate to its great elevation.

One remarkable characteristic of the round-topped ranges in the bases of the lower MacLeay, is their very great fertility: for their steep slopes are never bare and rocky, but almost invariably covered with soil, clothed with good grass and lofty forest trees, and sometimes tangled brush; they are occasionally stoney on the higher ridges, but the grass is still abundant. A peculiarity I have noticed in the soft, slaty ranges, is the very great inclination of the sides of ranges and gullies, having a good covering of soil, with grass and trees, and which I have seen considerably greater than that which geologists seem to have assigned as the extreme limit at which rock can carry a soil. I have extracted from Professor Jameson's valuable notes to Cuvier's Theory of the Earth, the following observations of the celebrated Humboldt on this subject. According to his measurements, "a slope of even fifteen degrees appears steep, and a declivity of thirty-seven degrees so abrupt, that if it be covered with a dense sward, it can scarcely be climbed. The inclination of the pastures of the Alps seldom exceeds an angle of ten or fifteen degrees, and a slope of twenty degrees is pretty steep. At an inclination of forty degrees the surface of the rock is sometimes covered with earth bearing a sward, but at a greater elevation the rocks are usually destitute of soil and vegetation. In the Upper Hartz, the most common

inclination of the declivities of the mountains is twenty-five degrees, nor does it usually exceed thirty-three, at which inclination the beech and spruce grow. The greatest declivities at which ground can be advantageously cultivated have an inclination of thirty degrees." Now I have frequently observed at the MacLeay river, sides of gullies, &c. with an inclination of upwards of fifty degrees, covered with grass and trees; the long roots of the common Australian forest grass may possibly exercise some influence in retaining soil on a rocky surface of so great an inclination, whilst the edges of the almost vertically disposed strata of the schistose formation would occasion a rough surface, along which the soil could not easily slip.

In returning to the mouth of the MacLeay river, and proceeding eleven miles north of it, along the coast, we arrive at the mouth of the Nambucca river, which communicates with the ocean, over a rocky impassable bar. The Nambucca river is formed by several mountain streams, rising in brushy gullies. When these streams have attained a fall low enough to be affected by the tide, they form salt-water inlets, navigable for boats, which all unite in one main channel a short distance from the bar. In my survey of the navigable arms of the Nambucca river, I did not find it possessed of any important features; its banks consisted of mangroves, tea-tree swamps, dense forest, and cedar brushes. On

one arm, called by the natives Nymbedia, there is a curious passage, scarcely wide enough for a boat, through which the water passes, although the creek, immediately above and below this spot, is fifty yards wide. As the cedar on the MacLeay river is now quite exhausted, the cedar sawyers have lately migrated to the brushes at the Nambucca. They were at first exposed to murderous attacks from the native tribes on its banks, who killed and wounded several sawyers; and as retaliatory expeditions were undertaken, in consequence, against the natives, (on which occasion the sawyers mustered together, armed with their guns, and swords, roughly manufactured from their pit-saws,) a great number of blacks were killed in the skirmishes which took place, and they gradually became more peaceably inclined.

About six miles north of the embouchure of the Nambucca, a small stream, called by the natives "Coohalli," (which rises in a high pyramidical forest hill, and the adjacent ranges,) filters through a sand bank to the sea. I have considered this stream worth noticing, as being *the farthest point south*, and consequently, the nearest point to Sydney, at which I have found the magnificent variety of pine, generally known as "*the Moreton Bay pine.*" These trees occur here all of a sudden, in considerable numbers, and of great size and altitude, although I have never detected one single individual pine in any of the brushes of the Nambucca, MacLeay, Hastings, or Manning rivers, or indeed any where

south of this point.* This variety of pine, and the Araucaria excelsa, or Norfolk Island pine, which is grown as an ornamental tree in the Sydney gardens, and also grows very extensively on the north-eastern coast of New Holland, are the most beautiful and stately of all the genus Coniferæ in the known world; they frequently exceed two hundred feet in height.† The following remarks on the Araucaria excelsa, are by Mr. Cunningham, the late enterprising colonial botanist; they are quoted in Murray's Encyclopædia of Geography, from which work I have copied them :—" The famous Araucaria excelsa, reckoned amongst the loftiest trees in the world, which was first found in Norfolk Island, and New Caledonia, has been ascertained by Mr. Cunningham to extend from Mount Warning, on the east coast, in latitude 29° south, thence sparingly towards the tropics, within which it is very abundant, forming upon several islands the only timber. This is probably the nearest approach of the species to the equinoctial line; and although it occupies an area of nine hundred miles, it is probably limited in Terra Australis, to its immediate shores; and as ap-

* This variety of pine is totally different from that of the interior (Callitris pyramidalis).

† A medical gentleman in Norfolk Island measured an Araucaria excelsa, the dimensions of which were as follows :—Diameter, near the ground, twelve feet; and at the height of eighty feet, nearly nine feet. The total height of the tree was two hundred and sixty-seven feet!

pears to be the case with Pandanus, exists only within the influence of the sea air."

This last remark of Mr. Allan Cunningham quite agrees with my own observations: the pine I have never seen growing any where, except in brushes bordering on the salt-water estuaries of rivers, or salt-water inlets near the coast; and the Australian Pandanus, which closely resembles the African Pandanus, (and which bears a large golden-coloured fruit, of the size of a pumpkin, and somewhat resembling a pine-apple in its external appearance,) grows only on the grassy headlands along the coast, and on the sandy hillocks which extend along the low beaches.

The next river, the native name of which is Bellengen, was first found in the year 1841, by a party of sawyers who went out on an expedition to discover new rivers to cut cedar at. On their return, they said, that after travelling four days from Kempsey, on the MacLeay, keeping as near the coast as they could, they came to a salt-water inlet, as large as the MacLeay river at its mouth. On questioning the Yarra-Bandini tribes of blacks, at the MacLeay river, I learnt from them, that, in their Corroberrees, or dances of ceremony, with some of the tribes from the Nambucca, they had heard that there was another river, always containing plenty of fresh water, farther on. Having been at that time constantly engaged, for nearly twelve months, in the survey of the MacLeay river, I de-

termined to give the men assigned to me for my surveying party, a little repose; whilst I started with our stockman—an active intelligent fellow, on whose coolness and courage I knew I could rely, in case we encountered any hostility from the blacks—on an excursion over the mountains towards this new river, keeping inland as much as possible, as by so doing I should be better enabled to judge if it were a stream of any importance. I will here insert my journal of this excursion, written at that time, as it will serve to give some idea of the nature of the broken mountainous country north of the MacLeay river.

March 6th, 1841.—Got ready a small sack of flour, ten pounds of cooked bacon, a bag full of tea and sugar mixed together, a stone bottle of rum, some tobacco, three hatchets, and a pair of blankets. Having arranged these articles securely on the back of the most sure-footed pack-horse I had, I started on the excursion, with Miles our stockman, both of us being mounted on strong bush horses, and well armed with carbines, pistols, and swords.

Having left our cattle station, at Yarra-Bandini, late in the day, we did not get further, before dusk, than twenty miles from it. We stopped for the night at a brushy water-course, a few miles on the other side of the main range, dividing the basin of the MacLeay river, from that of the Nambucca river, to the north of it. The country thus far was grassy forest land, thickly timbered with gigantic

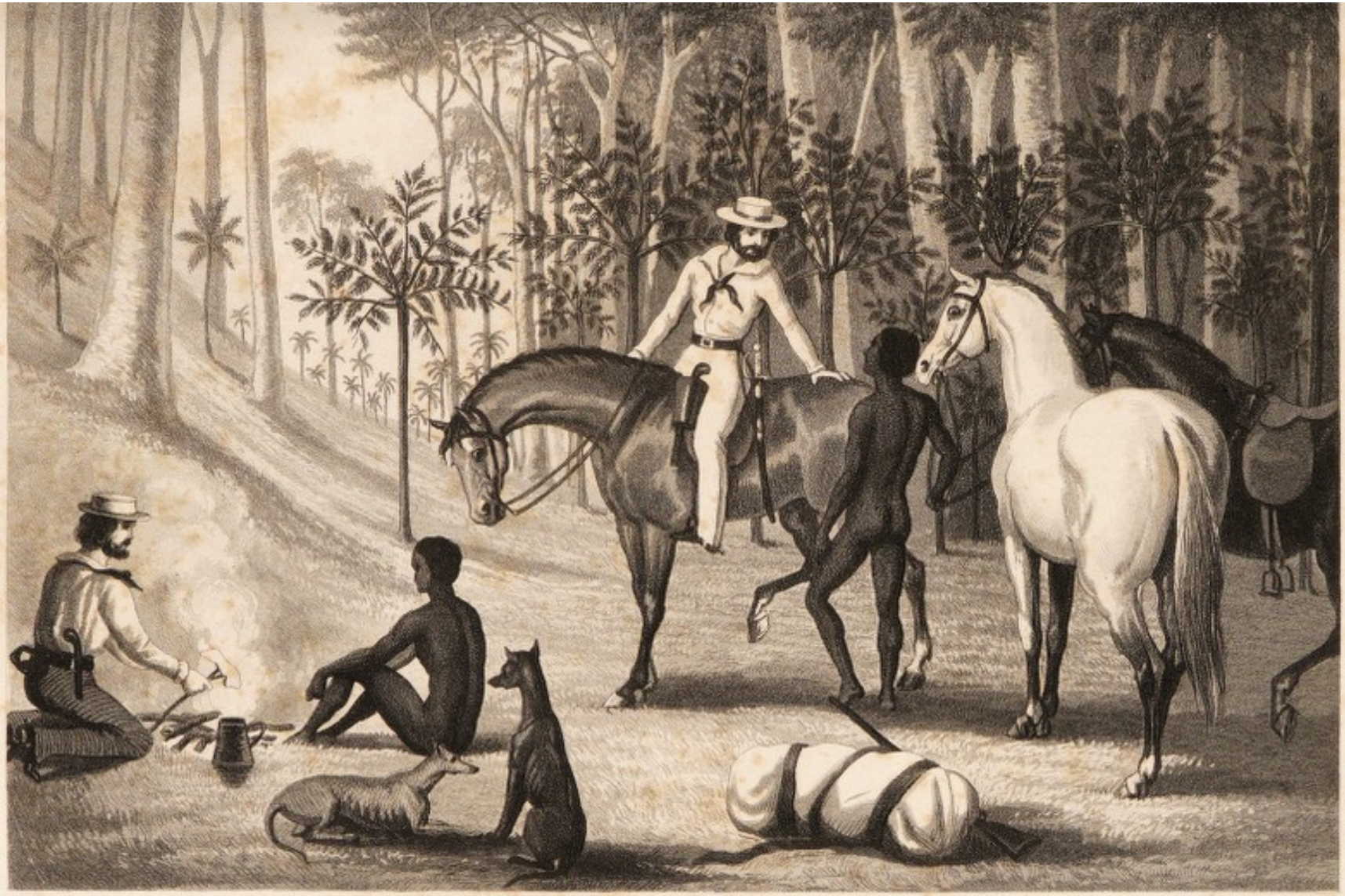
black-butt gums, and other eucalypti, and abundantly watered with numerous permanent chains of water-holes, and gravelly water-courses in brushy hollows. Having unloaded the pack-horse, tethered out our horses, and lit a fire, we suddenly heard the loud shrill *couis** of the natives, who turned out to be some old friends of mine belonging to the Tanban tribe. Having heard that they were now at peace with the tribes we should have to encounter on our journey towards the Bellengen, I persuaded a couple of them to accompany me, by the promise of a red shirt each, and plenty of *smoke*, (tobacco,) whilst they remained with me; for I was well aware that they would be of great utility in searching out the best crossing places for our horses over the creeks, cutting a passage through the entangled creepers of the brushes, and acting as interpreters to the wild blacks. They had just succeeded in killing a kangaroo, and good-naturedly offered us some of it. Having finished our supper, we laid down to sleep with our saddles for pillows, but were much teased during the night by the clouds of musquitos which issued forth from the dense brush to attack us.

March 7th.—Having boiled our tea, and breakfasted on toasted bacon, and *bush biscuit*, (thin cakes of flour and water baked on hot embers,) I started on our journey soon after six o'clock. After a ride of half an hour, we crossed the first large brook

* Native call.

which flows into the Nambucca river. I gave it the native name of Oankihi creek ; it was flowing on a bed of dark blue rock, which appeared to be limestone. In the thick brushes which skirt this stream, I saw a great number of gigantic ferns, which are common enough at Illawarra, and many other parts of the colony, but which I had never seen in the MacLeay river brushes. After proceeding a few miles farther, over a country of alternate low ranges, and gravelly water-courses in brushy hollows, we crossed a high leading range of grassy forest hills ; a descending spur of which brought us to the brink of a rapid stream, dashing along in a very irregular bed of slaty rock, the strata of which had a great inclination. We had some trouble in getting our horses across the jagged and pointed rocks, which rose out of the water. The native name of this stream was Algomerra. On the other side of the Algomerra, we entered a dense brush, which continued unbroken for several miles. Here we had to dismount, and assist the blacks in cutting a passage for our horses through the masses of briars and creepers, that bound the trees together. On emerging from this brush, we continued crossing a never-ending succession of densely-wooded ranges, and brushy gullies, containing small gravelly water-courses, and at length reached one of the main streams flowing into the Nambucca. It was about one hundred feet wide here, being a limpid, shallow stream, with a gravelly bed. On entering

the brush bordering on this river, we experienced considerable annoyance from the great quantity of nettle-tree saplings. My hands and arms soon ached from the poisonous touch of its leaves, and our horses suffered very much; one of them threw himself on the ground, snorting convulsively with pain. The nettle-tree attains a very large size at the MacLeay and Nambucca, being often six feet in diameter, and of a corresponding height; its wood is very soft and spongy, and its leaves, which are of great size, resemble in shape the leaves of the mulberry, and at the same time possess the bright green velvet appearance of the geranium leaf. The slightest touch of one of these leaves occasions a most acute stinging pain; but horses suffer infinitely worse than men from contact with the leaves of the nettle-tree, as their skin rises in large blisters, and great temporary constitutional derangement seems to take place. Our blacks killed a large carpet-serpent near here, which was carefully preserved for their next repast. Having already halted for one hour, for our horses to have some grass, and to take some refreshment ourselves, we pushed through the brush, and emerged on some good undulating forest land, intersected by small brushy water-courses; and at length began ascending a long thickly-wooded slope, which led us to the summit of a high range, extending to the westward in an undulating outline of conical summits. This range was timbered by very large black-butt trees, and covered with luxu-



A halt near a fern tree Scrub

riant grass; we passed also through a long patch of plants in full bloom, resembling the English vetch.

We had a beautiful view from the summit we were now upon. To the westward, amidst a confused mass of mountains rising beyond mountains, covered with universal forest, the eye could trace the deep, narow valleys full of brush, of the streams forming the Nambucca, curling into the deep mountain recesses. Looking towards the north-west, the direction in which I wished to proceed, tier beyond tier of mountains rose in serrated ridges of steep, high conical summits; the view in that direction being bounded by the dim, blue outline of a level crested range of surpassing altitude. Looking east, the eye embraced the dense forest and swamps on the Nambucca river, the silvery glare of its tranquil reaches, and the blue surface of the boundless Pacific Ocean, which was about twenty-five miles distant. To the south-east, the isolated position of Mount Yarra-Hapinni made it stand forth in bold relief; and as I had fixed the position of both Yarra-Hapinni, and Arakoon Hill, in my surveys, I now, with a pocket compass, took the bearings of these hills, which of course would enable me to obtain a very rough approximation of the position on which I then stood. We descended from this range, along a narrow spur, with shelving gullies on each side, and after crossing two or three small water-courses running north-east, we halted at night-fall on a low grassy forest range. We had

scarcely taken the saddles off our horses when it began to rain heavily; however, we set ourselves busily to work, and by the light of the fire, for it was now quite dark, we soon managed to strip off two or three sheets of bark from the surrounding black-butt trees, and erect with them a precarious shelter from the rain. After having collected enough wood to keep up a large fire all night, and eaten our supper, we lay down to sleep. About midnight we were awakened by the loud barking of my dogs, and starting up, were very much astonished to see a number of blazing torches advancing towards us. We thought, at first, that we were going to be attacked, and accordingly snatched up our pieces to be in readiness for our supposed enemies; however, it proved to be a false alarm, for it appeared that our black companions, whose keen senses had detected the smell of the smoke from the fires of a black tribe in our vicinity, had slipped off, after we were asleep, to see them, and these wilder blacks, unable to restrain until morning their impatience to see the "white fellows," thought proper to pay us this nocturnal visit.

March 8th.—Having got our clothes somewhat dry, we started early in the morning, and soon encountered the whole tribe of natives. They drew up in a body as we passed them, and after gazing on us in silence, they commenced following us, keeping about one hundred yards in our rear; however, they soon came close to us, talking loudly with my

two tame blacks. They seemed inclined to be pretty friendly, and were of great assistance in enabling us to get rapidly through the entangled briars in the brush, which they beat down with their boomerangs; and in showing us the best crossing places over the rocky, steep-sided creeks and gullies, which we continually encountered. We soon crossed another large stream flowing to the Nambucca over a pebbly bed, with magnificent cedar trees in its brush; and after travelling over a succession of low, brushy ranges for several miles, we crossed another stream of similar size, with abundance of cedar on its banks. The enormous fig-tree was very common here; the fruit was now ripe, and scattered in great quantities under the trees. We ate plentifully of these figs, as their flavour was agreeable enough, being of an acid sweetness. Large numbers of the crested flock-pigeon were feeding on this fruit. We halted a little distance beyond this stream for a short time, during which there was a violent thunder-storm. I amused the natives very much by placing my compass on the ground, and making the needle move about with the point of my sword; they laughed uproariously at this, as though it were a good joke. This tribe now left us to go on a pademella hunt; five of their number remained, however, with my tame blacks, and were of the greatest assistance, for without them I could never have reached the Bellengen river with horses. I am sorry to observe, that this tribe,

which behaved so well to me, was the one which subsequently attacked and murdered the cedar sawyers on their first migration to the Nambucca river.

We had been rising from the last stream along a brushy, narrow ridge, with dense brushy hollows on both sides of us, and we now came to a very steep ascent. Although my pack-horse had a very light load, we were here obliged to take it off, and distribute it among the blacks, who carried their burdens on their heads; and dismounting ourselves, we toiled up to the summit, leading the horses after us. I now perceived I was on a high range, dividing the last crossed stream from the deep, narrow valley of another stream, which lay at my feet enveloped in brush. Beyond this was an abrupt range of much greater altitude than the one I was upon, rising in very steep pointed summits, and densely wooded all over; whilst, between each of its narrow, razor-backed spurs, deep gullies, and chasms full of brush, dived down into the glen below. Beyond this range I could distinguish two other chains of mountains, of still greater elevation, and running parallel to it, in an east and west direction; the most distant being the elevated level ridge of mountains already noticed, and which evidently divided the Bellengen river from the Clarence river. We descended the range we were on by a steep, grassy slope, which became invaded by the brush as we got lower down; and we now arrived at the last stream which flows to the Nambucca. Here we had great trouble in crossing,

as the banks were high and steep, and composed of rotten, decomposed vegetation, in which the horses sank deeply, whilst the bed of the stream was full of huge round masses of rock. We now crossed a low, brushy hill, and descended into the bed of a mountain torrent, which was at least thirty feet wide, and full of shingles and large boulders of rock, worn round by attrition. Our course now lay along the rapidly ascending bed of this torrent for some distance, until masses of fallen trees, choked together in one inextricable mass, forced us once more to enter the brush. We found it so dense that we were obliged to cut every yard of our way; night was coming on, and to increase our discomfort, it began to rain heavily. The brush-leeches, issuing forth from the dank rotten leaves, soon attacked the calves of our legs; at length we got into a more open brush, and finally reached the forest on the narrow spur we were ascending. Dwarf palms, and ferns, however, usurped the place of grass; it was now night, but still indispensable that we should reach a place where grass was to be had. We were, therefore, obliged to unload the pack-horse again, to attack the formidable ascent up the narrow ridge before us. The rain had now increased, and the wind sounded hollow and dismal as it swept up the ravines on either side of us; at length, after great fatigue, we dragged ourselves and horses up to the very crest of the range, which was about two thousand feet above the level of the sea. Although the

ridge we were now on was so razor-backed as to be only a few feet wide, and then shelved down like the roof of a house to the glens, the grass on it was of the utmost luxuriance, and large black-butt and turpentine trees grew along its crest. Having tethered our horses, while the blacks were still toiling up the lateral ridge with the provisions, we struck a light, and soon established an immense fire in spite of the rain. When the blacks arrived we stripped some sheets of bark from the turpentine trees, and with the aid of a few boughs, soon erected a shelter from the rain. Having given the blacks some flour and tea, and made some hot rum and water, we stripped off our wet clothes, and enveloping ourselves in our blankets, soon felt quite comfortable. The night was very tempestuous, many a tree, uprooted by the wind, fell with a thundering crash down the precipitous ravines; whilst the trees over our heads rocked fearfully under the influence of the violent gusts which swept over that exposed mountain top. I frequently expected that our frail erection of bark and branches would be blown over the side of the range by the force of the wind.

March 9th.—Having dried our clothes as well as we could, we started soon after sun-rise, and travelled to the westward along the narrow ridge of the range on which we had passed the night, until it rose in a steep cone; we then turned to the north-west down a steep descending, lateral ridge, covered

with the common fern, the tree-ferns, and low dwarf palms, the timber being mahogany and turpentine. At the subsidence of this lateral range we came upon a gravelly brook, which the natives called Deletalmia. We traced it down through the brush to its junction with a fine stream, to which I gave the native name "Odalberree." This stream is a tributary to the Bellengen. In the brushes here I saw the finest cedar and rosewood trees I had yet noticed; I also saw several creeping plants, climbing among the trees, which were quite new to me. We were here caught in another heavy thunder shower, which soon drenched us to the skin. On leaving this stream we began ascending a steep, brushy range, the forest trees having a dense underwood of the gigantic fern; this was the only lateral range which seemed accessible to climb up, with horses, to gain the crest of the next main range. At length we gained the summit of a high, grassy cone, which, however, was only an angle in the outline of the lateral ridge. As it had now ceased raining, we halted on this green cone, and refreshed ourselves and our horses, which we found a great source of inconvenience in this mountainous country; for the last twenty miles we had been constantly on foot, one side of the ranges being too steep to ride up, and the other too steep to ride down, whilst the blacks had to divide the pack-horse's load among them. It was only among the crests of the main ridges, and now and then in the brushy hol-

lows, that we could ride for two or three hundred yards without dismounting. Having descended from this conical summit, we climbed up a steep, narrow, razor-backed slope, flanked by precipitous, brushy gullies, and gained the crest of the main range at about four o'clock. This range, which was composed of soft micaceous talc, was covered with luxuriant grass; in fact, notwithstanding its steepness, there was so much soil on it, that just over the side I half buried the ramrod of my carbine in loose earth. This range was serrated by a chain of conical summits, the average height of which I estimated to be about two thousand five hundred feet above the level of the sea; this range divides the Bellengen river from its tributary, which we had lately crossed. We scrambled along the serrated crest of this range, for about four miles to the westward, before we found a lateral spur, by which we could descend without difficulty to the valley of the river. The view from the range was magnificent. At our feet was the narrow glen of the Bellengen, choked up with dark green, impervious brush, whilst immediately opposite to us, on the north side of the river, a gigantic range rose up in perpendicular buttresses, three thousand feet high, and the total altitude of the range itself could not be less (judging from analogy) than five thousand feet. Opposite the point we had attained, the outline of this high range was a level table land, but nearer the coast it became broken into an undulating

outline of steep, conical summits. Exactly opposite to us, in a deep cleft, a beautiful cascade dashed down a fall several hundred feet perpendicular, like a long band of silver, glittering in the rays of the declining sun; to the east we could discern the dim outline of the horizon over the Pacific Ocean; and turning to the west, mountains beyond mountains rose in varied contour, whilst snow-white clouds floated in serpentine wreaths among the narrow glens, and dark mountain recesses. We had some trouble in getting down the lateral spur descending into the valley, as it undulated in steep, short, pointed hummocks; it was night before we got half way down, but as the moon was shining brightly, and the blacks had made torches of turpentine bark, I determined to push on to the brink of the river before I halted. We now crossed a small, gravelly brook, and in ascending the steep bank on the other side, one of my horses rolled backwards into the brook; he would have been killed, had not his fall been arrested by some creepers. We next traversed a thicket swarming with fire-flies, and with luxuriant fern reaching to my shoulders as I sat on horseback; and after passing another gravelly brook, we found ourselves on a beautiful grassy forest bank, overlooking the river Bellengen. We fortunately found here a deserted blacks' camp, so that we had abundance of bark to build a secure shelter for the night.

March 10*th*.—As soon as I awoke I ran down to

the river, which I found to be a rapid stream, upwards of one hundred feet wide at this point, and flowing over a bed of large shingles. After breakfast, I had the horses saddled to commence ascending the river. Upon crossing a brushy creek, we got down into the bed of the river and forded it, entering a dense cedar brush on the other side.

In a straight line of ten miles, we crossed and re-crossed the river no less than twelve times; this was unavoidable on account of the steep, inaccessible, forest banks, which formed tangents to the convex bends of the river on either side. Our course, therefore, lay from necessity along the alluvial land, which consisted of brush, cedar plains, and forest flats. The brush contained the finest cedar and rose-wood I had ever seen; the trunks of these trees were often six feet in diameter, and ninety feet high, before they threw out a single branch. The Casuarina also grew to such an uncommon height, and its foliage assumed such an unusual form, that I thought at one time it was a species of Pine. The small clear plains, just mentioned, were covered exclusively with coarse broad-bladed grass, growing as high as a man's middle, and having the appearance of small wheat fields; the grassy forest flats were principally wooded by that species of Eucalyptus called Forest Mahogany. I halted for the night on a grassy flat on the brink of the Bellengen. An annoying accident had happened to me this day; in crossing one of the fords, my pack-horse slipped backwards down a slip-

pery bank into the river, and wetted every thing on his back. On examining what damage had been done, we found that all the sugar was melted, and a large portion of the flour caked together ; our blankets also were quite wet.

March 11*th.*—I continued my course up the river, over the same kind of ground as the day before, until I attained a point where the brush seemed to be almost entirely superseded by narrow, lightly wooded flats ; with patches of the Swamp oak (*Casuarina paludosa*) growing among the shingles of the stream. I now thought it useless to go on farther, towards the source of this river. My provisions were decreased from yesterday's accident, and we were separated from the MacLeay by numerous lofty ranges, almost inaccessible for our horses. I had now ascertained the existence of a fresh-water stream, between the MacLeay and Clarence rivers, little inferior in size to the Hastings, but was much disappointed at its total inutility ; for, notwithstanding the romantic beauty of the scenery at the Bellengen, and the rich luxuriance of the vegetation on its banks, the steep lofty ranges which hem it in on every side, and contract its valley to the most insignificant dimensions, render it perfectly unavailable for grazing purposes.

March 12*th.*—This day we descended the river, until five o'clock in the afternoon, when we stopped to refresh our horses and ourselves, on a small grassy plain of about fifty acres in extent. I amused myself, whilst waiting for our pots to boil, in cutting out

my initials on a tree at this place. As our horses did not seem very much fatigued, I now determined to gain the crest of the high range dividing the Bellengen and Odalberree before stopping for the night; for as the moon was nearly full, it would be more pleasant to ascend the range in the cool of the evening, than to wait until the morning at the Bellengen; besides, the grass on the mountains was younger and sweeter than that in the valley. The blacks, however, were much displeased at my determination; for the poor fellows were excessively fatigued, as they had undergone the most severe toil, during the last few days, in carrying our baggage on their heads, up and down those mountain slopes which were too steep for horses. I had very great trouble in persuading them to go any farther this evening, but at length, by promising them an extra quantity of tobacco, and half the remainder of the rum in the spirit flask, I succeeded in rousing them up to resume their march. We now commenced ascending the range along a steep spur of undulating outline, wooded by large black-butt trees, and covered with a luxuriant growth of common fern; whilst the tree-ferns and a dwarf kind of palm formed a thick underwood. After a smart clamber we gained the summit of the ridge, about an hour after the rising of the moon. When we arrived here, panting and perspiring, the cool bracing breeze seemed very refreshing; but we soon found it too cold at so great an elevation, and were glad to make a large fire, and throw ourselves

at full length before it. My black companions had procured some honey in the course of the day, and had killed an opossum and a large dew-lizard, which is very well tasted, somewhat resembling the flesh of chickens in flavour. I gave to the blacks a larger portion of flour than usual, in exchange for their honey, which I employed to sweeten my tea, as the sugar was lost when the pack-horse fell into the river. We brought sufficient water to the top of the range in the baskets of the wild natives with us. These baskets were made of the leaf of a large aquatic plant, and were perfectly water tight. As to our horses we allowed them to drink plentifully at the foot of the range. The blacks being in good spirits, on account of our return towards the MacLeay, indulged for two or three hours in loud singing as they lay extended on the grass. It is astonishing what a fondness the Australian natives display for the tribes to which they belong, and the localities in which they are accustomed to roam ; they cannot bear even a short separation from their fellows, and their usual haunts, without feeling a strong desire to return to them.

The glen of the Bellengen, and the surrounding mountains, appeared singularly romantic from the high range on which we bivouacked, beneath the clear moonlight sky. The deep narrow valley yawned in misty obscurity, like a fathomless abyss at our feet, whilst the lofty mountains, which bounded it to the northward, stood forth in bold,

well defined outline against the illuminated sky. Around us, and down the steep slopes of the range we were upon, the dazzling whiteness of the branches, and upper parts of the trunks of the huge black-butt trees, and the grassy slopes bathed in mellow moonlight, formed a strong contrast to the pitchy darkness of the glen and the mountains opposite. The weather being beautifully serene, and there being no musquitos, ticks, or other noxious insects on the mountains, I enjoyed an unbroken invigorating sleep until daylight.

March 13*th.*—This morning we descended from the range, and watered our horses in the Odalberree river. We saw a number of fish in the waters of this clear pebbly stream, being of that kind vulgarly called in the colony, "fresh-water herrings." We next crossed the range bounding the Nambucca, some miles lower down than we had done before, and after crossing one of the Nambucca streams, we stopped for the night on a high range. Our supply of provisions was almost expended, as I did not calculate on having so many blacks in my train; we had only a small quantity of flour and a piece of cheese left, so I had taken the opportunity, before we left the range, on which we had passed the preceding night, to shoot a number of parrots, which had alighted in swarms on the black-butt trees. This evening we broiled them on the embers, and I now intimated to the Nambucca blacks that they must leave us next morning, as I could not

afford to give them any more flour, for which they had formed a great predilection.

I was sorry to see that the horses, which were first-rate ones, and possessed extraordinary powers of endurance, frequently exemplified on previous occasions, were nearly knocked up, although we had walked on foot all this day, with the exception of a short distance on the more gently inclined lower slopes of the ranges: they had abundance of good grass and water during this excursion, but the steepness of the hills was almost too much for them, and they had, on two or three occasions this day, made stumbles at the sides of gullies, into which they narrowly escaped falling.

March 14*th*.—This morning we crossed another of the Nambucca streams. As we entered the brush we heard the loud shouts of the blacks who were busily engaged in hunting. The plan adopted by the natives in this pursuit, was somewhat similar, on a small scale, to the mode of hunting pursued by some of the Indian princes. The blacks first of all dispersed, and formed in the brush a circle of a quarter of a mile in diameter, and then, on a given signal, they all commenced shouting and advancing towards the centre, gradually lessening the circle. The brush-kangaroos or pademellas were thus gradually enclosed, and driven into a small space, where, being surrounded on all sides, they were dispatched by the natives, who carried for this purpose short cylindrical pieces of wood, formed from a species of tree

growing in the brushes, and which is of greater specific gravity than any wood I am acquainted with. This tribe was the same we had met a few days before, and to which the five blacks, whom I had just dismissed, belonged. They had apparently been performing a corroberree dance on the preceding evening, as their bodies still preserved traces of the pigments with which they adorn themselves for that occasion. Among these blacks were several old men with white beards, and one man surprised me very much, as his skin was variegated by white patches. On inquiring from my two tame blacks the cause of this, they told me he had been burnt, but in what manner I could not ascertain. On emerging from the brush, we passed the encampment of these natives, where we saw a number of women and boys, who seemed excessively alarmed at our appearance. We now travelled back along our former track, and refreshed our horses on the grassy conical hill I have previously mentioned. Whilst here we encountered the tribe to which my two blacks belonged, and who were *en route*, either to dance a corroberree, or else fight with the Nambucca tribe. These blacks crowded round the two natives with me, to hear the news respecting those whom we had lately seen; they were all acquaintances of mine, and spoke fluently the jargon in which the whites and blacks converse. They gave to the natives accompanying me a wooden bowl full of cobberra, a long white worm, eaten by them,

which is found in wood that has been immersed for some time in the brackish water, in those parts of rivers affected by the tide. One of the most violent thunder-storms I ever saw, occurred whilst we rested here; and after it had passed away, it still continued raining during the remainder of the day. We now crossed the middle arm of the Nambucca, and began to see the large forest kangaroos again, which we had not encountered on the steep ranges we had passed over, although the brushes abounded with the small brush kangaroo. It was late in the evening when we entered the wide brush on the north side of Algomerra creek, and it was quite dark soon afterwards. I therefore regretted that we had not stopped at the last water-course, as it was raining heavily, and we would have to cross the jagged and pointed rocks in the bed of the Algomerra, before we emerged on open forest land again. We now wended our way slowly through the brush, preceded by the blacks, to avoid being entangled in the matted creepers. We experienced, as I had anticipated, great difficulty in getting our horses across the Algomerra by night, especially as this stream was much swollen; and as I was dragging my horse over the rocks, he made a sudden spring, and struck me violently with his forefeet, but I was not hurt. We then stopped on the open forest, and tethered out the horses. This was the most uncomfortable night we had passed during the excursion, as we had scarcely anything to eat, and could not

get any good bark to protect us from the rain; and when the rain did at length cease, we were surrounded by the densest crowds of musquitos I had ever before met with. Miles, the stockman, narrowly escaped injuring his hand here, as he thoughtlessly discharged a horse pistol with the swivel ramrod remaining in the barrel.

March 15*th*.—The sun rose in an unclouded sky this morning. We arrived, in the middle of the day, at my tents near Woollombucca creek, where I had left my surveying party. I here made a vigorous inroad into a mess of salt beef and peas, which my tent-keeper had prepared for his own dinner, and revived my horse with a good feed of maize; after which I rode on to our cattle station, and rewarded the blacks with the promised red shirts, and a large supply of tobacco and pipes.

In the year 1842, I determined to ascertain whether the Bellengen river was navigable, and to examine the country round its mouth; as I intended, if the land was well adapted for grazing, to form a cattle station there.

About that time the blacks, from the sources of the Nambucca and the Bellengen, had committed several outrages on the sawyers, who had lately proceeded to the former river to cut cedar. One sawyer had been murdered most cruelly by the savages, who attacked him and his companion whilst felling a tree. When his body was found, it was

ascertained that he had received more than fifty spear wounds in different parts; one spear had transfixed his kidneys, and even the very soles of his feet had been pierced. His arms were dreadfully fractured, evidently whilst he was in the act of raising them to protect his head from the clubs of the natives. A retaliatory expedition was accordingly organized to pursue the aggressors, and endeavour to seize those who had been chiefly concerned in this murder. In the course of the chase, the sawyers, aided by some of the MacLeay river blacks, succeeded in approaching the encampment of the natives in the dead of night; and next morning, on their making resistance, the whites poured a volley of ball and slugs among them, and killed and wounded several. If I may credit the report of an eye-witness, most of the wounded blacks sprang into the water, where some of them were apparently seized by sharks attracted by their blood. Several other affrays had taken place about this time, between the natives and parties of white men, in which the former were the aggressors.

Being aware, that one of the chief causes of the hostility of the wild blacks to parties travelling through the bush, was their indignation at the encroachment of white men on the prescribed haunts of the tribe; which cause would occasion a quarrel between different tribes of the natives themselves, unless their objects in so trespassing were formally explained by an avant courier, or herald; I resolved

on taking with me some Yarra-Hapinni blacks, with whom I had become acquainted during my surveys, as I knew they would prove of great service in explaining to the Bellengen blacks the object of my intrusion into their country. They would also assist my men in carrying their knapsacks, as I intended travelling on foot this time. Accordingly, I supplied two of my men with the requisite provisions, and armed them with carbines and pistols. I then put on the bush dress I usually wore in such excursions, which consisted of a scarlet woollen shirt, and light kerseymere trowsers, doubled in kangaroo leather down the legs, secured by a leather belt round my waist, supporting my cartouche box and pistols. In small excursions of a week or a fortnight's duration, in a brushy country, difficult to traverse, and in which it is absolutely necessary to carry as few things as possible, and bivouac at night on the bare ground, I found a simple dress, such as I have described, more convenient than any other; for, being entirely of woollen materials, it encouraged insensible perspiration, and was consequently not too warm during the heat of the day, whilst at night, when one has to sleep without any covering, it is more comfortable than common clothing. Besides, as it is frequently necessary to wade through rivers and swamps, and be exposed to rain, a thorough soaking in these woollen garments does not occasion that uncomfortable feeling of chillness, which it would do in the usual dress.

1*st day*.—We walked to Gurrasembi creek, the south arm of the Nambucca. I stopped for the night at a cedar dealer's store; and as the Yarra-Hapinni blacks were encamped in the neighbourhood, I paid them a visit after dark, to ascertain whether I could persuade some of them to accompany me to the other side of the Bellengen. As a grand corroberree was in the act of being performed, I had to wait patiently until its conclusion, before I could sound the natives on the object of my visit. At length, when a cessation took place in the obstreperous singing, and frantic gesticulations, which create such intense excitement in the Australian savage during this dance, and the performers had cast themselves down exhausted before their fires, I explained to them what I wanted. After some trouble, I persuaded three of the blacks to accompany me, by the promise of a tomahawk to each of them on my return, and plenty of tobacco whilst travelling with me. These three natives gloried in the following names, which had recently been conferred on them by the sawyers, viz. Wongarini Paddy, Billy, and the Bullock.

2*nd day*.—We started after dinner, and reached the mouth of the Nambucca at nightfall. We stopped for the night on some sandy ground, where I was severely bitten by the stinging-ants, called Jumpers, which leap like grasshoppers, and inflict a sharp pain. Being, moreover, pestered by sand-flies, our sleep was not very refreshing.

3rd day.—As soon as it was light I sent Wongarini Paddy to spear some fish for breakfast. He soon caught some bream, which my man, Matthew Boot, an old bushman, quite *au fait* in such matters, contrived to broil very tolerably on the hot ashes of the fire, flavouring these fish, in the absence of choicer condiments, with thin slices of grilled pork. This, with the usual bush fare, quart pots full of tea, damper cake, and salt bacon, constituted our breakfast. A party of cedar sawyers, who had descended from Werral creek in a boat, luckily enabled us to cross the Nambucca, without waiting for the blacks to construct a bark canoe. On landing on the north side of the Nambucca, about a mile above Scott's Island, I ordered my men to load their carbines; and having made the blacks string the tin pots round their waists, we started across a grassy tea-tree flat. After crossing two or three water-courses, and some good grassy undulating forest land, we arrived on the sea beach, about a couple of miles north of the bar of the Nambucca. We now walked easily along the smooth sands, left bare by the tide; crunching under our feet, by thousands, the small blue crabs, which issue from their holes in countless multitudes at low water. When we had walked about six miles along the beach, we saw on the heights a large party of blacks watching us. I therefore stopped, and sent Wongarini Paddy, and Billy, to pialla, (tell the news,) to them. After a short time, they returned with one of these blacks, whom it appeared

they had induced to accompany us.* It being excessively warm, both the blacks and myself frequently walked into the surf to cool our feet, which was very refreshing. The waves which broke on the beach were full of mullet, and salmon, that seemed to swim among the breakers in search of prey. The blacks made several attempts to spear some as we walked along, and at last succeeded in transfixing a salmon, weighing upwards of twenty pounds, which subsequently served for our dinner. The headlands along the coast were of coarse slate, until we arrived at the rocky points, answering to the ranges of mica, which I had crossed in my previous excursion. About one o'clock, we turned inland from the beach, until we found a water-hole; halted there for an hour, and cooked the salmon. We now travelled over an undulating grassy tract, timbered by stringy bark, and forest mahogany; and after crossing several hollows, we arrived on the salt water estuary of the southern tributary to the Bellengen, which I had called Odalberree, near its source. We here heard the natives; so I kept back my men, whilst the blacks with me went forward to have a conference with those we were

* It may seem strange that the Bellengen blacks, although so near to the cattle stations at the MacLeay, to the southward, and those at the Clarence, to the northward, should have seen so little of the whites. It was, perhaps, owing to the more stationary habits of these natives, from the abundance of food in their haunts, and the broken intervening country.

approaching. After a short time they returned, and informed me that the Bellengen corees, (black fellows), were belcoula, (not angry), so we advanced towards them. As we passed them the men preserved a very solemn and dignified demeanour; whilst the women, who had all scaled the neighbouring trees, sat like monkeys among the branches jabbering 'white fellow! white fellow!' to each other. These blacks were very fine men, with the exception of one elderly gentleman, who, if he had been in Europe, would have made the fortune of an exhibitor of wonders; for owing to some internal hurt or disease, he was reduced to a mere skeleton, being nothing but skin, bones, and integuments. I could not indeed imagine how, with such an apparent absence of muscle, he still possessed the power of locomotion. This old fellow, though on the brink of the grave, had made one step towards civilization beyond the rest of his companions, in having acquired a knowledge of tobacco, probably from some of the tribes near the MacLeay. The Australian black has an innate predilection for smoking, for the wildest native, on being shewn a pipe for the first time in his life, and instructed how to draw up the smoke into his mouth, enhales his first whiff with a grunt of satisfaction.

We now advanced to the brink of the water, which was here about 200 yards wide; the wild black, who had accompanied us from the beach, and whom my men had named Bellengen Billy, in contra-distinc-

tion to Yarra-Hapinni Billy, now indicated to us a long diagonal ford, nearly half a mile in length, which it was necessary to pass to arrive on the other side of the inlet. Making this black go before as a guide, and following his track, we were just able to cross over without actually swimming, as the water reached our shoulders; and Yarra-Hapinni Billy, a mere boy, had to swim some distance. We carried our guns, ammunition, and provisions, safely across by holding them high above our heads. On emerging from the water, we soon entered a dense brush, in which were pines, palms, and various kinds of myrtle trees, bound together by a sort of climbing cane, which does not grow in the MacLeay river brushes. We disturbed several Wonga-wonga pigeons in threading our way through the brush, one of which I shot.

After walking a few miles over a brushy country, we encountered another party of blacks, among whom were several of those men who had visited the cedar sawyers at the Nambucca, and been engaged in the affray with the whites already alluded to. They however seemed inclined to be very amicably disposed towards us; although there was one man among them, who, if I can give credit to my tent-keeper's and bullock-driver's account, had planned, with some other blacks, an attack on my tents, whilst the rest of my party was engaged in surveying up the Nambucca; but a black woman belonging to a different tribe, having given my two men timely warning, they were enabled to catch up a

couple of loaded muskets, and drive them off. Having given some tobacco to these natives, I struck across the country to the northward, and arrived on the main branch of the Bellengen, exactly opposite a verdant plain of very pleasant aspect, about 200 acres in extent, covered with broad bladed grass and high reeds. The river was very narrow here, and we crossed it without difficulty. As it was now dusk, I prepared to stop for the night at the nearest fresh water the blacks could find, which was unluckily a small quantity that had temporarily lodged in the hollow formed by the uprooting of a large tree in the alluvial brush, and was at this time perfectly putrid, from the quantity of dead insects and rotten leaves which had accumulated in it. It was so offensive both in taste and smell, that, although I was excessively thirsty, I could not touch a drop of the tea made from it, and it was equally rejected by my men. The blacks, however, were not so scrupulous, and drank the tea which had been prepared for the whole party. As the saltness of the water was not yet perceptibly diluted by the river, and the surrounding land being alluvial, I could not hope to find any better water near our resting place. The best proof that no other water was near, was the variety of birds which had congregated on the overhanging trees to quench their thirst: the white cockatoos with yellow crests, black and scarlet macaws, red and green parrots, flew up in great numbers when we disturbed them. Thirst

quite spoilt my appetite, so I threw myself down supperless, among the grass and fern, for the night.

4th day.—As soon as it was daylight I refreshed myself with a bathe in the river; and as it was of no use breakfasting until we found better water, we started across the reedy plain, on the borders of which we had spent the night, towards the lofty mountains separating the Bellengen from the Clarence. These mountains, which are of bold and beautiful colour, of great elevation, and heavily wooded to their summits, formed a grand feature in the landscape, from their abruptness and proximity, as the rising sun bathed them in a flood of purple light. Having traversed this verdant plain, and some tolerably grassy forest, we entered a dense brush, and after crossing several steep brushy ranges, and some rocky water-courses, I turned west-south-west, to meet the Bellengen again. After traversing some brush, we came suddenly on a reedy flat near the river, containing a lagoon. A large snake was in the water when we arrived, but swam into the sedge on seeing us. We stopped here to breakfast. The Bellengen black who had accompanied us from the beach seemed to like sweet tea and damper very much, but did not approve of bacon. Having repacked our traps, we journeyed on through continuous intricate brushes, which, on the north side of the Bellengen, seemed to prevail equally both on the alluvial lands and the ranges; cedar, rosewood, fig-trees, nettle-trees, and plum-wood, predominating on

the alluvial land; black-butt, myrtle, turpentine, corkwood, and mahogany in the mountain brushes.

The cedar and rosewood grew to a very great size on the banks of the Bellengen; the red cedar, (*Cedrela toona*,) was remarkably tall and straight, for this kind of tree is in general more gnarled than the common Australian trees. One cedar, which was lying prostrate, was measured by my men, and its straight trunk was found to be eighty feet in length before it threw out a single branch. The alluvial brush was intersected by numerous brackish creeks of great depth, which we either waded through, or crossed by means of trees lying over them. When we again met the Bellengen it was still salt, but not more than 280 feet wide.

Bellengen Billy amused me very much by his curious method of diving to the bottom of the river in search of cobberra, the large white worms resembling boiled macaroni, which abound in immersed wood. He swam to the centre of the river with a tomahawk in his hand, and then breathing hard that his lungs might be collapsed, he rendered his body and tomahawk specifically heavier than water, and sank feet foremost to the bottom. After groping about there for some moments, he emerged on the river's edge, with several dead pieces of wood, which he had detached from the mud.

Although I have tasted from curiosity various kinds of snakes, lizards, guanas, grubs, and other animals, which the blacks feed upon, I never could

muster resolution enough to try one of these "cobberra;" although, when I have been engaged in the survey of salt water creeks, and felt hot and thirsty, I have often envied the extreme relish with which some accompaning black would stop and gorge himself with this moist living marrow.

We continued our course through the same brushy country; the level river brush being intersected by small inlets affected by the tide, and at length arrived at the fresh running stream, which was flowing as clear as crystal in a narrow bed of large shingles. A pretty bush, with bright crimson flowers, grew among the shingles in those parts uncovered by the water. As it had been excessively sultry, it was quite delightful to drink of the pure waters of the river. We now continued travelling through the dense brushes to the northward of the Bellengen, until four o'clock in the afternoon, when we again made the river, and stopped to take some refreshment. The timber, as is generally the case, was much finer on the banks of the river above the influence of the tide; cedar was abundant, and the swamp oak *(Casuarina paludosa)* attained a larger size than I had ever before seen in any part of the colony. Having made a fire, Matthew Boot once more had an opportunity of exhibiting his skill in bush cookery by broiling a pigeon which I had shot as we came along. The blacks also were provided with game, as they had killed a guana and a dew-lizard.

Having finished our repast, and being once more ready to proceed, I observed that the blacks began to shew many symptoms of uneasiness, talking incessantly together in a low voice, and minutely examining the ground. On my inquiring what was the matter, they at length told me, with some unwillingness, as they did not like me to see that they were afraid, that they had found the tracks of some of the mountain "black fellows," who had recently been there, and who, they maintained, were close to us. Both my Yarra-Hapinni natives, and the black from the sea coast, were considerably alarmed; as the tribe from the high mountains on the north side of the Bellengen was hostile to their respective tribes, and had come down considerably below their usual beat. Although I wished to ascend the Bellengen as high as the lowest point to which I had examined it in my former excursion, I thought it best to comply with the solicitations of the blacks, and proceed no farther up the river; especially as the Yarra-Hapinni natives told me that the much dreaded invisible tribe would "durallee," (fight us.) Besides, the country had proved perfectly useless for stations, being nothing but alluvial brush land, or heavily timbered abrupt mountains.

We therefore crossed the river, and after traversing the entangled brush, emerged on a rising range of grassy forest, which was a spur from the range dividing the Bellengen from the Odalberree. After we had ascended this spur some distance, the blacks

pointed out to me in the valley, about three miles beyond where we had dined, some thin wreaths of smoke, proceeding, they said, from the camp of the tribe they were unwilling to meet.

At sundown we had reached the crest of the range, between the Bellengen and its southern branch; it was here of very inferior altitude to what it was more inland, where I had crossed it before, as its elevation above the sea did not exceed fifteen hundred feet. To attain the summit, was however toilsome enough for us, after our long day's walk, which had been infinitely more fatiguing than the same distance would have been on ordinary ground; for, in addition to forcing our way through entangled briars and creepers, we were incessantly compelled to clamber over huge fallen trees, and other obstructions in the brushes. We had a fine view from this point of the noble chain of mountains on the north side of the Bellengen. Here, like the view I had of these mountains more inland, universal brush seemed to clothe them to the summits. From their great height and abruptness, they appeared quite close, but even on making allowance for this, their summits could not be more than seven or eight miles from the river. This range preserved a very great altitude even close to the coast, for several summits, not more than eight or nine miles in a direct line from the ocean, seemed to be upwards of three thousand feet above the sea, and they gradually increased in altitude as they re-

ceded from the coast. I was the first to notice this range in my previous excursion. There is no other lateral range from the great main chain dividing the eastern and western waters, which, so far as I am aware, is equally conspicuous and important, and which extends so high and unbroken to the coast as this; and it is worthy of remark that it exactly coincides with the Nundawar range of Sir Thomas Mitchell, which is the only great lateral range thrown off on the opposite side of the main chain into the comparatively level country, that characterizes the interior to the westward of it.

When we had arrived on the summit of the range, dividing the Bellengen and Odalberree, I perceived that we were about sixteen miles distant from the sea. We now walked about a couple of miles eastward, along the crest of the range, and then turned down a spur leading to the Odalberree. This slope was covered with good grass, and variegated by the graceful tree-ferns, which formed a beautiful underwood to the large black-butt trees, predominating on these hills of micaceous talc. It was quite dark before we had descended into the brush of the valley, and as the blacks with me wished to ascertain whether there were any strange natives in our vicinity, Wongarini Paddy set up a most dismal and prolonged howl, being an exact imitation of the atrocious noise made by the Australian Dingo, or wild dog; for he knew that if there was a tribe in the neighbourhood, the dogs would begin barking on hearing the howl. We entered the brush at the subsidence

of the spur, by which we had descended, Bellengen Billy being the leader, as we trusted to him to find water in the brush; for my blacks told me I had come too low down, as the Odalberree was brackish here. We soon found a channel containing some indifferent water; and having discovered a spot free from the thorny creepers, and entangled canes, we cut down the tall fern which grew there, and lit a fire on the cleared space.

After we had taken some food, and composed ourselves to sleep on the fern we had cut down, I heard the rumbling of distant thunder. The stars soon after became overcast, and the pattering of the rain on the dense mass of foliage over our heads, and the vivid flashes of lightning announced the approach of the storm. It was some time before the rain reached us through the thick foliage of the tall trees and matted creepers, but when it did at length penetrate through this temporary protection, it was worse for us than if we had been in the open forest, for after the storm had passed over, the trees continued to distil large drops of water on us during the remainder of the night. Those disagreeable reptiles the brush-leeches, were also roused into activity by the rain; they are similar to the leeches of stagnant ponds, and abound in the dank rotten masses of leaves, and decomposed wood, of the brushes. These leeches attach themselves to the boots of persons traversing the brush, and soon manage to crawl under the trowsers or gaiters and

find the skin. They then gorge themselves with blood, whilst the small punctures they make, remain painful and inflamed for several days afterwards. I have frequently, after standing at rest for a few moments in a brush, picked off a dozen leeches at a time from my legs, which they had commenced sucking; and my feet generally became covered with blood, whenever I had to survey rivers or creeks along their brushy banks.

5th day.—After breakfast we proceeded through the brush to the banks of the Odalberree. We forded this stream at the point where it becomes affected by the tide, and then travelled down its right bank towards the sea.

The country we passed over, consisted of narrow alluvial brushes, and heavily wooded forest land, well clothed with grass, and rising in a high range of hills. In keeping as near the river as possible, we passed several deep salt creeks, which were the outlets for the water-courses from the hills. As we approached the coast, bangolo palms and cabbage palms became very prevalent in the brushes, and we cut down some of them to obtain the white solid heart, which very much resembles the chesnut in taste, and is used as an article of food by the blacks. Having at length arrived at that part of the river, where we had seen the natives two days before, we crossed a tea-tree swamp covered with sedgy grass, and then followed down a narrow tongue of lightly wooded grassy forest land, between the river and

Natives Spearing Fish on the Bellenden River

the sea. This conducted us to the bar of the Bellengen, which is joined by the Odalberree close to its mouth.

The Bellengen river, viewed from the grassy point on which we now stood, formed here a wide and extensive reach, fringed by mangroves, and backed by tea-tree and myrtle thickets. The main river stretched away to the northward of the bar, for two or three miles before it turned inland, and was upwards of a mile wide, containing extensive sand-flats, covered by curlews, white cranes, spoonbills, and other aquatic birds. The water appeared to be very shallow, and the bar did not seem to be practicable for the ingress of any but very small vessels. The high range, dividing the Bellengen and the Clarence river, throws off, near the mouth of the former, a lower range of hills, extending along the coast, and which continued past the Solitary islands. The country between these hills and the sea, appeared to be grassy forest land.

As there was a large mangrove creek between the point on which we stood and the beach, we now traced it up, in order to head it, and arrive on the sands. This creek abounded in fine oysters, and I was glad to follow the example of the blacks, and swallow some of them. We were now caught in a violent thunder shower, which drenched us completely, and rain continued to fall during the remainder of the day. We travelled south again towards the Nambucca, but a little before nightfall

I turned inland towards the high conical forest-hill, on the range to the northward of Coohalli creek.

6*th day*.—We saw this morning the principal body of the Bellengen tribe of natives. Among the number were several blacks, who had been noticed, as foremost in the outrages upon the whites, already referred to. One man, in particular, had been pre-eminently remarkable from his tallness and herculean proportions; the sawyers up the Nambucca, had distinguished him by the name of "Cobbaun (big) Bellengen Jack."—I never saw a finer specimen of the Australian aborigines than this fellow; the symmetry of his limbs was faultless, and he would have made a splendid living model for the students of the Royal Academy. The haughty and dignified air of his strongly marked and not unhandsome countenance, the boldly developed muscles, the broad shoulders, and especially the great depth of his chest, reminded me of some antique torso. These blacks were quite ignorant of the jargon, which the stockmen and sawyers suppose to be the language of the natives, whilst they suppose it to be ours, and which is the ordinary medium of communication between the squatters and the "tame blackfellows." Bellengen Billy left us here to join the tribe; as he had been of some service to me from his knowledge of the brushy country north of the Bellengen, I presented him with an old red handkerchief, in which the tobacco had been tied up. Not having expected a

present, he was quite taken by surprise, and grinned with satisfaction. We now descended a water-course running into Coohalli creek, which we traced down to the long narrow salt-water lagoon, into which it empties itself. Some beautiful pine grew to a large size in the narrow brushes bordering on this lagoon, and in some parts the young fine saplings formed an underwood to the larger timber, giving quite a novel appearance to the landscape. We now crossed the brackish creek, over a huge tree of extraordinary length, which had fallen across it. Between Coohalli creek and the Nambucca, the country that we passed over, consisted of undulating grassy forest land, heavily wooded by iron bark, stringy bark, black-butt, and casuarinæ, and intersected by many deep salt creeks, which we waded through, or sometimes got over by means of fallen trees. The soil was of an inferior description, being overgrown by many Xanthorrheæ.

When we arrived on the banks of the Nambucca, within half a mile of the bar, we could not find any trees from which we could procure a sheet of bark sufficiently compact to make a native canoe; for the weather having been very dry, and not being the proper season for stripping bark easily, we could get none without breaking it. Our only plan therefore of crossing the river here, was to swim it, which we could easily do, as it was not more than half a mile wide. Unfortunately one of my men, Matthew Boot, was unable to swim. I therefore

ordered them to cut some branches of white-cedar, and other brush-trees, (for all the forest trees, are of greater specific gravity than water), and make two small rude rafts; one being for our guns, clothes, and ammunition, and the other for the accommodation of Boot. Having instructed two of the blacks to tow Boot's raft across, the third black, and my man, who could swim, started with the other raft; and having waited myself to see Boot safely launched, I swam after the others as quick as I could on account of the sharks, which are extremely numerous, both in the MacLeay, Nambucca, and Bellengen, near the mouths of these rivers. When I had landed, and looked back, I was surprised to see the blacks swimming across without Boot, whom I could perceive on the shore. It appeared that after I left him on the raft, on which he was kneeling, it suddenly broke loose, as the branches, which composed it, were only bound together by long pieces of the creeping cane, which grows in the brushes. Of course Boot was soused headlong into the water, but the blacks brought him up in a twinkling, and conveyed him on shore, and then swam over to tell us of his mishap. I was now in a great dilemma, for I saw it would not be safe for him to be brought over on so frail a raft, especially as a north-east wind had just sprung up, which furrowed the surface of the river with splashy waves. It was essentially necessary that I should communicate with him, that he might know what to do;

as the river was not fordable until ten or twelve miles higher up, and he would be then obliged to cross its other two arms also. It was in vain that I tried to persuade the blacks to go over to him; promises and threats were equally disregarded. At length, having told them that they should not have the reward I had promised them, "the Bullock" was at last induced to swim across. I directed this black to remain with Boot, and ascend the Nambucca with him to the ford on the north arm. I also gave "the Bullock" the remains of our damper, and bacon, in a small bag, which he fastened on the top of his head, among his long hair, that it might not get wet as he swam.

Whilst I was watching "the Bullock's" progress across the water, the other blacks speared some fish. I had sent the last remnant of our provisions across to Boot, as we were now only eight miles from the cedar sawyers' huts at Werral creek; but as I felt rather hungry from our walk and swim, I was glad to eat a broiled fish, without either bread or salt. We now walked along the sea beach, on which I shot a couple of that beautiful kind of sea-bird which the colonists call Redbills. We slept this night at Werral creek, and next day reached my station at the MacLeay. Boot arrived two days afterwards.

This excursion of mine to the Bellengen, was of no use with regard to the object I had in view, in proceeding thither, for both the valley of the river, and the mountains enclosing it, were covered with such dense brushes, as to afford very little country

fit for grazing purposes. If agriculture were sufficiently profitable in New South Wales to cover the expenses of clearing land of heavy brushes, the rich narrow glen of the Bellengen, might in that case be highly available, especially if rice, cotton, tobacco, &c. were the objects of cultivation.

Just before I left the colony, I heard that the cedar dealers at the MacLeay had succeeded in getting a vessel across the bar of the Bellengen, and that the sawyers had gone over there, from the Nambucca, to cut cedar.

PART II.

Port Macquarie—Pleasing scenery—River Hastings—Rich agricultural farms on the tributaries of the Hastings—The sugar plantation and the success that attended it—Frequent rains in consequence of the altitude of the mountain chains, and their proximity to the coast—Road to the table-land—Capt. King's opinion of the wide extent of fertile country in the vicinity of Port Macquarie—Notes taken during a ride from the MacLeay river to the Hunter—Description of the Clarence river—Fine grazing country—Easy communication between the high table-land and the Clarence—The Richmond river—Extensive tracts of rich land—The Tweed—Moreton Bay—Mr. Oxley's official despatch on the discovery of the Brisbane river—Sources of the Brisbane—Brisbane town—Great fertility of the country—Its capabilities for maintaining a dense population—Climate equally salubrious with the more southern parts of the colony—Moreton Bay well adapted for the culture of many tropical productions—The Bunya-bunya tree—Great numbers of Aborigines in the districts where this tree abounds—Distinctive features of the north-eastern part of the territory of New South Wales, when compared with the more central part of that colony; its geological formation, lofty chains of mountains, numerous rivers and streams, and adaptation for tropical productions.

The town of Port Macquarie is situated on the south side of the river Hastings, just inside of the bar, in 31° 25′ 45″ south latitude. Port Macquarie is a well built little town, the houses being of brick,

and generally surrounded by neat verandahs, and trellis work. The first view from the sea of Port Macquarie is very pleasing. On entering the surf of the bar, one sees immediately beyond the last breaker, the mirror-like surface of the river extending in a long reach ; whilst on the left, dark serpentine rocks protect the base of a smooth round eminence, covered with green sward, and crowned by the signal-post, fire-beacon, and windmill. A little farther on is the town, built on a gentle rise, which shows to advantage its pretty little cottages with pointed roofs, its broad straight streets, coated with dark red gravel, and levelled with as much accuracy as garden walks, and its tall square church tower conspicuously prominent in the highest part of the town. A grove of magnificent trees encircles Port Macquarie, and extends along the banks of the river ; whilst turning to the west and north-west, the eye embraces a wide extent of forest country, and can trace, among the mountain ranges, the windings of the valley through which the river Wilson flows ; Mount Caoulapatamba being sufficiently near to enable one to distinguish every tree on its grassy declivities, whilst the distant ranges at the MacLeay river, and the huge frowning mountain at the back of Cogo, are half dissolved in blue ether.

When I first saw Port Macquarie, five years ago, I had been but a few months in the colony, and had at that time only seen the country in the county of Cumberland round Sydney, which quite coincided

with what I had previously read respecting the sterility of the soil of New Holland, and the dry, harsh, dismal appearance of its vegetation. I was therefore much struck with the luxuriance of the vegetation on the coast, as we approached Port Macquarie; dense thickets of cabbage palms and myrtle trees, extended down the gently sloping rocky declivities, even within reach of the spray, and every unwooded patch was covered with grass. I had certainly never before seen a coast so beautiful; the tints of the rocks, foliage, and verdure, were all of that warm, mellow kind which a painter would delight in studying. The lofty forest too, rising so luxuriantly close to the sea, presented a great contrast to the stunted Banksia thickets, and desiccated scrubs, which I had seen on the sea coast in the sandstone districts round Sydney.

The river Hastings rises at Mount Warragembi, which is one of the summits on the range which divides the basin of the Manning river from that of the MacLeay. This range branches out at Mount Warragembi, so as to form the basin of the Hastings river, which consequently does not rise in the great main chain of mountains dividing the eastern and western waters, as some authors have averred. Mr. Montgomery Martin, in his work on New South Wales, has committed a great error with regard to the Hastings river. He writes that "*the river Hastings* rises in a parallel of $33\frac{1}{2}^{\circ}$ south latitude, and under the meridian of 150° east, having a course

of 2045 statute miles, throughout which the elevation of its source, being 3500 feet above the level of the sea, would give its waters an average descent of 20 inches in each mile, supposing the bed of the river to be an inclined plane." Now the source of the Hastings is in 31° 50′ south latitude, instead of 33½°, and its longitude is 151° 50′ east, instead of 150° east, as Mr. Montgomery Martin avers; the length of its course also is scarcely more than one hundred miles, instead of 2045 statute miles. The cause of such great misrepresentation is this. In the history of Captain Sturt's expedition down the Macquarie river, which passes through Bathurst, that enterprising traveller made some observations respecting the length of the course of that river, and the average fall of its waters. Mr. Montgomery Martin, unaccountably confounding *the Hastings river* with the *Macquarie*, (although their sources are two hundred miles distant from each other, and their courses in opposite directions,) copied Captain Sturt's remarks on the Macquarie, and applied them to the Hastings; also giving to the source of the latter river, the latitude and longitude of the source of the former.

There are many errors of a more trivial nature in Mr. Montgomery Martin's work, which however cannot fail of striking any person who has resided some time in the colony; thus, for instance, in his description of the X. arborea or Grass-tree, he remarks that "from the centre of the leaves springs

a foot-stalk twenty feet long, resembling the sugar-cane, and terminating in a spiral spike, not unlike an ear of wheat. This stem is used by the natives for spears, the end being hardened by fire." The stem of the Grass-tree is however soft and pithy, scarcely stronger than a kail stalk, and quite incapable of being pointed or hardened ; the use the natives make of it, is to fasten a well dried piece of it with gum to the after part of their spears, that its lightness, acting like the feathers of an arrow, may prevent the spear from rising in the air when thrown. Again, after giving most formidable Latin lists of Australian birds, copied from Swainson and others, Mr. Martin observes in another place, in his description of Illawarra, that there are in that locality, black cockatoos with scarlet crests. There are no such birds in the colony ; there are black cockatoos marked with yellow on the tails, and two varieties of black macaws with scarlet bands on their tails, but their crests are black. The bird to which I presume Mr. Martin alludes is an iron-grey bird with a scarlet head, (Callocephalon galleatum) which is very often met with at Illawarra. Errors such as these are scarcely worth mentioning, and are almost unavoidable in writing a work of such magnitude as Mr. Montgomery Martin's History of *all the British Colonies.*

The Hastings and its tributaries are navigable for boats as far as the influence of the tide extends, which runs up the Maria creek to the village reserve

at Mariaville, which is about thirty-six miles distant from the town of Port Macquarie. All the available land on the banks of the Hastings has been, at various times, purchased at the Government land sales, but the quantity of land which has been brought under cultivation is not very great. The principal agricultural farms in the county of Macquarie are situated on the banks of the Wilson river, a tributary of the Hastings, and a never-failing stream, flowing through a narrow valley. These farms form a contiguous chain for twelve or fifteen miles, and a very good road connects the whole of them with the embryo township of Ballengarra, the point at which the Wilson river becomes navigable for boats, and which is about twenty miles distant by water from the town of Port Macquarie. These farms are all composed of alluvial soil of the utmost richness; wheat, maize, barley, tobacco, &c. have always been grown on them with the greatest success; and the Colonial Government, during the time that Port Macquarie was a penal settlement, established a sugar plantation on the banks of the Wilson river. The canes succeeded very well, and some sugar was fabricated; but a heavy flood having nearly destroyed the machinery of the sugar-mills, the undertaking was abandoned.

The climate of the district of Port Macquarie is much more agreeable than that of Sydney; the mountains approaching nearer to the coast collect the vapours from the sea, and cause more frequent

rains; in summer, especially, the heat is mitigated by many heavy thunder showers. Notwithstanding its comparative vicinity to the tropics, Port Macquarie seems almost entirely exempt from those hot scorching winds, which so frequently occur during the summer months at Sydney; or if they ever happen in the Port Macquarie district, they are so slight as to be scarcely felt. Those sudden, violent gusts of wind, also, from the south, which generally happen at the close of a hot day in Sydney, raising dense clouds of dust in the air, and causing the thermometer to fall twenty degrees in a quarter of an hour, are comparatively unknown in the county of Macquarie. The north-eastern part of the territory of New South Wales, between the great main range, dividing the eastern and western waters, and the ocean, has never experienced such long desolating droughts as those which have occasionally been felt in the central and western parts of New South Wales. The greatest drought which has ever yet been experienced in the northern district was in 1841-2; the natural grasses at our stations were then quite desiccated on the ranges, and the whole country was continually in flames; the only young grass for the cattle and sheep being in the flats. Notwithstanding this, the chains of water-holes were as full of water as ever, and I never saw finer crops of wheat than were reaped during this droughty season on the alluvial farms on the banks of the Wilson river, and at the squatting stations on the

MacLeay river. Dr. Stacey at the Wilson, and Mr. Macleod at Dongai creek, near the MacLeay, reaped crops of wheat averaging upwards of forty bushels to the acre; the weight per bushel being sixty-five pounds. At the same period, most of the crops, in the country nearer Sydney, failed. However, in ordinary moist seasons, wheat does not succeed so well on rich alluvial land in the northern district; the straw grows too rankly and luxuriantly, and the quantity of the grain is diminished in consequence, and of inferior quality, being specifically lighter than wheat grown on forest flats. The best ground for wheat, in the county of Port Macquarie, and at the MacLeay river, would be that of the lightly wooded apple-tree flats.

I have already alluded to the mountain road, which has been rendered practicable for wool-drays, between Port Macquarie and the table land of New England. This elevated district is undoubtedly the best sheep country in Australia, and the squatters there have been much benefited by the diminished land carriage for their wool down this road; for short land carriage will henceforth be an object of greater importance than ever, since the Australian flock-masters have arrived at the conclusion, that the only way of disposing of their surplus sheep, is to boil them down for tallow, with a view of creating a new marketable article of export.

In order to show that my remarks, on the peculiar features and richness of the Macquarie county,

are corroborated by other authorities, I will here quote from Murray's New Encyclopædia of Geography, a description of the country surrounding Port Macquarie, principally deduced from the observations of Captain King, R.N., the present resident Commissioner of the Australian Agricultural Company, in the neighbouring county of Gloucester, and whose name has acquired considerable celebrity in the scientific world from his surveying voyage round the coasts of New Holland.

"The river Hastings, with the country round it, has since, in its turn, been made a free settlement. The Hastings was discovered, as already observed, by Mr. Oxley, (the late Surveyor General) on his return from his second journey. It is not very important in a navigable view, since it cannot be ascended more than ten miles by vessels of any size; but it flows through a great valley, extending fifty miles inland, till it reaches the mountains, and with a breadth nearly uniform. This tract is various, but generally broken into a pleasing undulation of hill and dale, and consisting mostly of what is called open forest, by which is meant grass land, lightly covered with good timber, and free from the perils of inundation."

Captain King remarks, that "there are here twelve million acres in which it is difficult to find a bad tract. It is, in general, finely watered with clear small streams, an advantage not enjoyed by the more southern districts of the colony. The climate

is nearly tropical, and rather too hot for wheat, which is apt to run to straw ; maize and rice would, of course, flourish, and sugar and tobacco have been tried with success. The inland dividing Blue Mountains, are very rugged and lofty, rising to 6500 feet, but to the south-west of these mountains is the extensive range of pastoral districts, called Liverpool Plains. Port Macquarie is a bar harbour, into which vessels, drawing more than nine feet of water, cannot safely enter ; there is good anchorage outside, and the shore is not dangerous. Not far from hence was recently discovered another river,* navigable for vessels of 300 tons, to 57 miles from its mouth, and which falls into Tryal bay. The banks consisted of open pastoral forest, and alluvial untimbered plains, holding out the most flattering prospects to the settler."

Before proceeding to describe the other parts of the northern district, from Port Macquarie to Moreton Bay, I will here insert the journal of a ride from my tents, near the range dividing the Mac-Leay and Nambucca rivers, across the counties of Macquarie and Gloucester, to the river Hunter, being a distance of two hundred miles; as it will serve to give some idea of the nature of the country passed over.

Some affairs of importance having rendered my

* The MacLeay river.—My survey has, however, shewn that it is only navigable for thirty-four miles, and so far only for vessels not exceeding sixty or seventy tons burden.

presence in Sydney necessary, in the beginning of the year 1841, I had engaged a passage on board one of the small vessels which load in the MacLeay river, with cedar for the Sydney market. This vessel, taking advantage of a favourable wind one morning, had crossed the bar and put out to sea, whilst I was absent with my blacks in the whale-boat. Having gone out to sea with my black crew to attempt to join the vessel, a strong north-easterly wind drove us back, and as a tremendous surf was breaking on the shore, we got upset on entering the breakers. We narrowly escaped getting dashed on the rocks, as the wind had driven us very near a rocky headland on which the sea was breaking very heavily, and after we had swam to the shore, I found the boat was shattered from stem to stern. Having previously sent my clothes on board the vessel which had sailed, and there being no other, either at the MacLeay or at Port Macquarie, I returned to my tents, and determined to ride across the country to the river Hunter, from whence steamers proceed every day to Sydney. Accordingly, on the next day, (*April* 18*th*), I ordered my horse to be saddled, and started off alone from my tents towards the fords of the MacLeay, near Steele's cattle station. I arrived there about two o'clock, and crossed the river at the ford below the junction of Dongai creek with the MacLeay. I now rode up Dongai creek to MacLeod's station, which is situated on the banks of this stream. A large patch

of rich land was under cultivation at this squatting station, and was now covered with a luxuriant crop of maize. I here turned off from the creek, and crossed some thickly wooded, undulating forest land, well clothed with grass, and abundantly watered by chains of water-holes in brushy hollows. A few miles south of Dongai creek I commenced the ascent of the range dividing the basin of the MacLeay river from that of the Hastings. This range is of no great altitude here, for its elevation above the level of the sea does not exceed one thousand feet; but a few miles to the westward it increases in altitude, until the square-topped mountain near Cogo, which throws off the lateral ranges, forming the basin of the Wilson river on one side and that of Dongai creek on the other, is, I should suppose, four thousand feet above the sea.

On the lower slopes of this range, towards the MacLeay river, limestone frequently appears above the surface of the ground, whilst the summit is very stoney, consisting of a soft kind of sandstone. After crossing this range I descended it on the south side, along a very stoney slope, grassy and heavily wooded, until I arrived at the first water-course; I then rode for several miles over a monotonous succession of low thickly wooded ranges, and brushy hollows containing water-courses, or chains of water-holes, until I arrived at the Wilson river. The track here led me through the chain of rich cultivated farms bordering on this stream. The

scenery was surpassingly beautiful as the shades of evening crept over the landscape. The alluvial plains in the narrow valley were of a rich golden hue from the ripe maize, which formed a strong contrast to the dark green foliage of the lofty brush, and the glistening white trunks of the gigantic Flooded gum trees. Immediately beyond the brush, lightly wooded forest hills, verdant and grassy, rose in graceful waving contour; whilst looking up the valley, lofty mountains, covered with brush, and tinted with deep purple, from the reflected light of the glowing evening sky, closed the scene to the north-west. Having rode past some neat wooden cottages erected on the farms, along a good dray track, and having crossed to the right bank of the river, I passed the fine water-mills belonging to Messrs. Freeman and Gorum, and arrived just after dusk at Dr. Stacey's, where I stopped for the night.

As the alluvial plains of the Wilson are subject to occasional floods, Dr. Stacey has built his house in a very judicious manner, on strong wooden pillars, sufficiently high to be far beyond the reach of the highest floods. These pillars, being connected by weather boards, form underneath the house a sort of outhouse or store-room, which can be easily thrown open on the approach of floods, so as to offer no impediment to the water, whilst a covered wooden gallery, in the Swiss style, surrounds the upper portion of the building in which the family resides.

April 19th.—Having taken leave of my hospitable host, I passed the large brick stores, originally erected by the Government as a sugar-mill. The ground formerly planted with the canes was now covered by a fine crop of maize. I rode on, down the valley of the Wilson along its right bank, which is skirted by a very good road. Having passed along the foot of Mount Caoulapatamba, a large round-topped hill on the range between the Wilson and the Hastings, I crossed the Wilson again in an alluvial brush, and a little farther on arrived at Ballengarra, where the Wilson river becomes affected by the tide, and is navigable for boats. The police magistrate at Port Macquarie has stationed some men here with a punt, for the convenience of the settlers at the Wilson. Having crossed the river in it, I entered on a very thickly wooded, undulating country, tolerably grassy, and intersected by moist tea-tree flats and sedgy hollows. This description of country extended to the Hastings river, which I reached at its junction with the Maria river, at Blackman's point, where another punt has been established. The Hastings has a beautiful appearance here, as the reaches are of great length, and of an uniform width of about a quarter of a mile. On its left bank there is a pretty cottage, with a flourishing garden of vines and fruit trees, and some distance further down the river, on the right bank, is the handsome villa of Dr. Carlisle.

Having crossed over in the punt, I followed the

track to the settlement of Port Macquarie, which extends for some distance along the bank of the river, traversing mangrove thickets and brushy forest land. Having passed at the back of Dr. Carlisle's vineyards, I arrived at Port Macquarie about one o'clock. After taking some refreshment there, and given my horse a feed of corn, I continued my journey. The road I took led me along some forest land and marshes to the beautiful residence of Major Innes, which is situated on a gentle eminence, that slopes down gradually to a large fresh-water lake, beyond which the house commands an extensive view of the ocean and the coast. A few miles further on, I met the line of marked trees to the Manning, near Walter's station. The country now consisted for some distance of thickly wooded, undulating forest land, tolerably grassy, and intersected by chains of water-holes and small water-courses, until I reached a sandy patch of ground, thickly clothed with grass, and timbered exclusively by Banksia, or honeysuckle, which is rather a rare tree in the Port Macquarie district, except in the immediate vicinity of the coast. Having again entered on a tract of the ordinary grassy forest land, heavily wooded by black-butt, iron-bark, stringy-bark, grey gum, mahogany, and forest oak, and furrowed by innumerable brushy hollows, containing water-courses, I rode on over this kind of country until dusk, when I stopped for the night at a gravelly creek just outside of the brush.

Being without a companion, I unsaddled my horse, and tethered him on some young grass; then collecting some wood, I made a large fire. After making a solitary meal on some biscuits and a flask of wine, which I carried in my saddle bags, I laid down to sleep. Being very lightly clothed in a blouse and summer trousers, I awoke shivering with cold after a short sleep, as the fire had burnt itself out, for want of fresh fuel. I therefore got up, and groping about in the dark in search of some more wood, I soon made a roaring blaze again. My next doze was interrupted rather suddenly; for it seemed that as my second fire diminished, I had insensibly crept nearer to it in my sleep, until the straggling ends of my neckerchief became ignited and blazed into my face.

April 20th.—Having breakfasted and watered my horse, I put on his saddle, and continued my journey. I now crossed a succession of short heavily wooded ranges, covered with fern and wiry grass, and separated by brushy hollows containing gravelly water-courses. On crossing the range bounding the basin of the river Hastings, I at length entered a deeper brush of a more alluvial character, and encountered a large stream which flows into Camden Haven inlet. The brush of this creek was diversified by an abundance of bangolo palms, fern-trees, and large flooded gum-trees. After crossing it I entered on another tract of country of similar features to that on the north side of Camden creek, the low

ranges being of good soil, and tolerably grassy, heavily wooded by large timber, with an underwood of Xanthorrheæ, tree-ferns, and a dwarf kind of Coripha. I then ascended a ridge of some elevation, and obtained an extensive view, To the right was the Broken-bago range, which divides the basin of the Manning river from that of the Hastings, and which was covered all over with the densest forest: on the highest conical summit of this range, a tall pinnacle of naked rock shot up perpendicularly above the trees, like a church-steeple. Looking eastward I discerned the verdant headlands at the entrance of Camden Haven inlet, with a long line of white surf at their bases, and more to the south, the three lofty hills, which stand comparatively isolated, near the coast, called "The Three Brothers," and which form such prominent landmarks when viewed from the sea. I still encountered for some distance further the same unvarying thickly wooded grassy ranges, and gravelly creeks in brushy hollows, at one of which I met with two natives who were getting some honey from the branch of a tree. They belonged to one of the Manning river tribes, and told me that the tribe was "close up bulga," (near the mountain), pointing to one of the Three Brothers. Having borrowed their fire-stick to light my pipe, and given them a piece of tobacco, I went a little farther on, and alighted a short time, whilst my horse fed upon some good young grass. On resuming my journey I passed along the foot of

one of the Brothers, over a grassy flat, timbered by tea-trees, and swamp oak. A little farther on I met a number of the women belonging to the tribe just mentioned, and soon after I encountered a party of the blacks themselves. They were very solicitous about the Port Macquarie " blackfellows," and made many inquiries as to what they were doing and where they were encamped, on which subjects I could give them no information. They were more importunate and greedy than the less civilized blacks beyond the MacLeay, who had not had so much intercourse with the whites, teasing me for tobacco, and asking for my handkerchief; so I soon rode away from them. The country now became less thickly wooded, and a few miles farther, on crossing a range crowned by a mass of naked pudding-stone rock, I saw, to the left, the extensive swamps to the north of the Manning called Jamaica plains, the intense verdure of which, formed a pleasing contrast to the more yellow-tinted green of the grassy forest hills. I now entered some extensive flats, covered with high grass, and timbered by large blue gum-trees and tea-trees, standing widely apart from each other. There were a great many creeks, and chains of deep water-holes here, which meandered among these flats without being enveloped in brush. The soil was very rich. This level tract extended to Major Innes' cattle station at Brinben, where I arrived at nightfall, being guided thither by the barking of the dogs, as I had ridden for some distance, to the left of the usual track to that station.

I was hospitably entertained here by the overseer, whose wife soon placed before me a dish of eggs and bacon, to which I did full justice after my day's ride, whilst my horse was recruited with a feed of maize.

April 21*st*.—It rained hard this morning, when I started after breakfast up the valley of the Manning river. On leaving Brinben I passed over several miles of good grassy undulating forest country, of park-like aspect, and rich soil, and watered by several fine brooks, the largest of which was the Dingo river, a tributary stream of some importance flowing into the Manning. I now crossed some fertile grassy hills, very lightly wooded, and rode past several sheep-stations. Having, at length, entered the brush of the Manning, I crossed over a ford near the Gloucester river, which joins it on the south side. The scenery was very beautiful here. The surrounding ranges of hills were all either very lightly wooded and grassy, or else covered over with brush timber and entangled vegetation. Most of the park-like hills rose in round conical summits, and were probably composed of clay slate; whilst one heavily wooded range, on the south bank of the river, was crowned by huge masses of rock, overgrown with creepers, and resembling the ivy-clothed battlements of some ancient fortress. Some sawyers near here kindly invited me into their hut to take some refreshment; the frying-pan was immediately put in requisition, and they soon placed before me

a huge plateful of fried pork, a damper as large as a blackfellow's shield, a kettle-full of tea saturated with sugar, and a pot of milk. My horse was also indebted to their hospitality, as he got several cobs of corn. There were a number of blacks here, and I noticed, among the children, several who were of a brown colour, like the South Sea islanders, being the offspring of white men. The wilder tribes of Australian natives, however, invariably put to death the children resulting from the intercourse between their women and the stockmen at out-stations, especially if they are males.

On the other side of the Manning I entered the county of Gloucester, in which the Australian Agricultural Company possess a portion of their grant. I now rode to the right of the rocky range before mentioned, tracing up the valley of a fine limpid brook, which flowed in a bed of dark-coloured rock.

As I advanced, the country became rather hilly, but very grassy; the ranges were lightly wooded by blue gum and stringy bark, whilst the apple-tree, (*Angophora lanceolata*), predominated in the valleys and on the lower slopes of the hills.

The country in this neighbourhood would be very good for sheep, if the grass were not allowed to grow too long and too old, for when once the Australian grass becomes dry, the sheep will never eat it. An intelligent overseer of a sheep-station in Australia, ought therefore so to regulate the grass on his run, by feeding it down, and burning it off in small

patches at a time, as to ensure a constant supply of the young succulent grass for the flocks at all times. The Australian Agricultural Company's land seemed to be extremely well watered in this part of their grant, but notwithstanding the more luxuriant aspect of the country hereabouts, I believe their sheep thrive better on the open plains on the other side of the mountains. In the evening I arrived at the first sheep-station belonging to the company, after passing the grave of two shepherds, who had been killed by the blacks at this place. The convict overseer who had charge of this station, gave me better fare than one generally gets at similar establishments, viz. mutton-chops, new milk, a comfortable mattress, and a feed of maize for my horse. There were six shepherds at this station, and several old black women, who had resorted thither, seemed to be of great service, in helping to look after the sheep, bringing in firewood, &c.

April 22nd.—I quitted this morning the hut of my attentive host, who rejoiced in the euphonous appellation of "Darby Joe," it being a common practice among the men in New South Wales, to bestow some slang names on the stockmen and shepherds in charge of out-stations, such as "happy Jack," "long Ned," "black Bill," "curly Tom," &c. The track led me over some high forest hills well clothed with grass, and of rich soil, whilst several of the adjacent ranges were invaded to their summits by a brush of myrtle, iron-bark, turpentine, &c. I then

traversed an excellent tract of grazing country, consisting of undulating forest land, lightly wooded by blue-gums and apple-trees. In this part, I travelled for many miles without seeing a single forest-oak, (*Casuarina torulosa*), which forms, almost universally, a sort of underwood to the larger trees of the genus Eucalypti, in the forests of New South Wales; the swamp oak, (*Casuarina paludosa*), was however very abundant along the water-courses and chains of water-holes, where it seemed to take the place of the brush vegetation, so universally prevalent in the channels of drainage more to the northward, nearer Port Macquarie. I soon passed another sheep-station situated on a gentle eminence. My attention was now drawn to the birds in this part of the country, for since I had left the Manning I had not seen any of the parrot tribe, with the exception of the Rosella or Nonpareil parroquet, a bird extremely common throughout the colony generally, but of which I had never seen a single specimen during the long time that I had been at the Mac-Leay river. The whistling magpie was in almost every tree, and is also a common bird in Australia generally, but I have never seen it at the MacLeay or Nambucca rivers. A few miles farther on, a fine flat extends to Gloucester, a large agricultural and cattle farm belonging to the Company. The superintendent of this establishment lives in a neat cottage, with substantial offices, and an excellent garden. Having been invited to take some refreshment, I

stopped here nearly an hour. The situation of Gloucester is very picturesque. An extensive flat has been cleared of trees, divided into paddocks, and brought under cultivation, and now presented the appearance of a wide yellow plain, from the dry wheat stubble, and ripened maize which covered it. On the verge of the flat, an abrupt range of densely wooded hills, called "the Buckets," rose to an altitude of about 1200 feet above the plain, their summits being crowned by precipitous masses of naked rock of fantastic contour, which reminded me of some of the castled crags of the Rhine. After leaving Gloucester, the country continued to be tolerably grassy, but the soil was very inferior to what I had passed over to the northward of that station. I next passed a horse station belonging to the Company, and rode through a large troop of mares and foals feeding in a flat. The range dividing the basin of the Manning, from the valley of the Karuah river, was next crossed by the track. There were several sheep-stations on the other side, but the country seemed to be more suitable for cattle than sheep. At one of these sheep-stations there were several Spanish shepherds. I next passed Talligarra, the Company's chief sheep-station, where there are some substantial buildings and stores; and in the evening arrived at the village of Stroud, the head-quarters of the Company, where I was hospitably entertained by Mr. White, the superintendent of stock.

April 23rd.—This morning I accompanied Mr. White, before breakfast, through the village of Stroud, to see some of the horses and bulls belonging to the Company. I found that Stroud presented a different aspect to the colonial townships in other parts of New South Wales; there was quite an English look about it, exemplified in the neat little gardens belonging to the mechanics in the service of the Company, and the roses and honeysuckles which diffused a grateful perfume on their verandahs and door-ways.

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

I saw here at Stroud, some Chilians from Valparaiso, who were employed in breaking in some

of the Company's young horses. They had fastened ropes to the horses' legs to regulate their paces, but the practice seemed to me useless and objectionable. On continuing my ride, I passed the Company's chief horse establishment, where I dismounted for a few minutes to see their imported stallions. They were lodged in a substantial brick-built range of stables, commodiously divided, well ventilated, and appeared to be kept in very good order. I next passed the elegant cottage of Mr. Ebsworth, the treasurer of the Australian Agricultural Company, which is situated on an eminence near the river Karuah at Booral, where a tract of ground is under cultivation. I crossed the Karuah, over a shingly bed, overgrown with swamp-oak, and then entered on a level tract of country, tolerably grassy, but of very inferior soil. The red gum began to predominate here, and the Xanthorrhea was prevalent on some of the eminences. The native cherry-tree, (*Exocarpus cupressiformus*) was very common also hereabouts. I met a black on horseback some distance farther on, belonging to the Port Stephen tribe, who had been despatched somewhere on a message. On inquiring his name, he told me it was "Mutton." As I approached the Hunter, the forest became intersected by a great many cattle and dray-tracks, and I passed two or three farms; but the soil still continued very inferior to the banks of the Hunter, at the village of Raymond-terrace, which

is situated at the junction of the Williams river with the Hunter. The site of Raymond-terrace had been a very heavily timbered wood, which had been cut down some years before, and the stumps left standing in the ground. Scarcely any of these stumps had been grubbed up, and they had become perfectly bleached, so that, as I rode into this village in the evening, it seemed as though the houses had been built in the midst of a churchyard, full of upright tomb-stones. Next morning I went on board the steamer from the Green-hills, and arrived in Sydney that night.

The Clarence, which is the next important river, north of the MacLeay, disembogues in Shoal Bay, in 29½° south latitude. Its natural features, and the nature of the country on its banks, are so very similar to those of the MacLeay, that a brief notice of it will suffice. The Clarence river rises in the main range, dividing the eastern and western waters; it receives several very large tributaries, one of which, the Ora-Ora river, rises in the lofty mountains, which, as I have before observed, bound the basin of the Clarence on the south, and divide it from the Bellengen river. The Clarence is remarkable for its great breadth, and large volume of water, compared with other Australian rivers, when the short distance of its sources from the coast is considered.

In common with all other rivers north of the Hunter, its entrance is obstructed by a bar, having

about eleven feet of water on it; its reaches are longer and wider than those of any other river on the coast of Australia, and are navigable for large steamers from Sydney to a considerable distance up the river; some craft can ascend the Clarence as far as ninety miles from its mouth. A few miles above the entrance of this river is a large island, containing upwards of fifteen hundred acres, and which, when first discovered, abounded in emus. Many other smaller islands occur higher up the river. The brushes near the mouth of the Clarence are interspersed with the beautiful variety of pine I have already described, and which I found not to extend south of Coohalli creek, near the Nambucca river.

The country available for grazing at this river is of excellent quality, and much more extensive than that at the MacLeay; for the country bordering on the Clarence and its tributaries is generally level, and the mountains do not attain any great elevation, except at the sources of the streams.

A great number of squatters have formed stations at the Clarence river. The communication between the table land along the main range, and the navigable estuary of the Clarence, is naturally much less difficult than at Port Macquarie; wool-drays can descend from the fine district, called Beardy Plains, (that portion of table land opposite the sources of the Clarence) with comparative ease, to that part of the river where the vessels take in cargo for Sydney.

An inconsiderable stream, or inlet, called Evan's river, joins the sea at a short distance to the northward of the Clarence.

The Richmond river, a little farther along the coast, disembogues near Lennox Head, in 28° 55′ south latitude. It very much resembles the MacLeay in its general appearance, and the character of its scenery: mangrove scrubs, tea-tree, and swamp oak thickets, cover the low flats near its mouth; and the alluvial land, higher up the river, is diversified by brush, abounding in cedar and pine, clumps of bangolo palms, reedy swamps, small rich plains, and lightly wooded forest flats of great richness. The rest of the country is very lightly wooded grassy forest, of the greatest fertility; in fact, there are few rivers where so much good available land exists, unbroken by densely wooded ranges and ravines. The bar of the Richmond river has from eight to ten feet of water on it; this river can be ascended by small craft to a distance of about thirty miles from its mouth. Its sources are not yet ascertained; its main stream appears to rise somewhere in the great main range dividing the eastern and western waters, near Wilson's Peak and Coke's Head, it then sweeps to the south of Mount Lindesay, which was ascertained by Mr. Cunningham to be 5,700 feet above the level of the sea. There is some fine cedar on the Richmond, and several cedar dealers and sawyers proceeded thither last year to cut it for the Sydney market, and for exportation to the other Australian colonies.

The Tweed, which is the next river north of the Richmond, rather deserves the name of a large salt-water inlet than a river; as its proximity to the Richmond, and the rivers which discharge their waters in Moreton bay, renders it impossible for the Tweed to be a large fresh-water stream. Its reaches, however, are long and wide, and are navigable for large boats to a distance of upwards of forty miles from its bar. A cedar dealer, named Scott, crossed the bar of the Tweed in a schooner of sixty tons burden. The land on the banks of the navigable part of the Tweed is of the same rich alluvial character as the other northern rivers; the timber is magnificent. The entrance of the Tweed is between Rainbow bay and Turtle island, in 28° 10′ south latitude.

Proceeding along the coast, we arrive at Moreton Bay, which is protected by two narrow islands, each of them being from fifteen to twenty miles in length, called Moreton island and Stradbroke island. The bay also contains numerous small islets, and mud flats covered with mangroves. Several rivers and streams fall into Moreton Bay, the principal of which are the Logan river, the Brisbane river, (which rises in the great main chain, and on which the settlement has been formed) and the Pumice-stone river.

The Brisbane river at Moreton Bay, and the geological formation, peculiar botanical productions, &c. of the surrounding country, have been so mi-

nutely investigated by Mr. Allan Cunningham, that it is needless for me to make any remarks on these subjects. The Brisbane river was discovered by Mr. Oxley, the late Surveyor-General of New South Wales, who, in his official despatch, makes the following observations respecting it.

"I sailed from this port, (Sydney) in His Majesty's cutter Mermaid, on the 23rd of October, 1823, and early on the 2nd day of December following, when examining Moreton bay, we had the satisfaction to find the tide sweeping up a considerable inlet, between the first mangrove island and the main land. The muddiness and taste of the water, together with the abundance of fresh-water molluscæ, assured us we were entering a large river, and a few hours ended our anxiety on this point by the water becoming perfectly fresh, while no diminution had taken place in the size of the river after passing, what I called Sea-Reach. Our progress up the river was necessarily retarded by the necessity we were under of making a running survey during our passage. At sunset we had proceeded about twenty miles up the river. The scenery was peculiarly beautiful; the country along the banks alternately hilly and level, but not flooded; the soil of the finest description of brushwood land, on which grew timber of great magnitude, and of various species, some of which were quite unknown to us. Among others, a magnificent species of pine was in great abundance. The timber on the hills was also good;

and to the south-east, a little distance from the river, were several large brushes or forests of the Cupressus Australis of very large size. Up to this point, the river was navigable for vessels not drawing more than sixteen feet water. The tide rose about five feet, being the same as at the entrance. The next day the examination was resumed, and with increased satisfaction. We proceeded about thirty miles farther, no diminution having taken place either in the breadth or depth of the river, excepting in one place for the extent of thirty yards; where a ridge of detached rocks extended across the river, not having more than twelve feet on them at high water. From this point to Termination hill, the river continued of nearly uniform size. The country on either side is of very superior description, and equally well adapted for cultivation or grazing, the timber being abundant, and fit for all the purposes of domestic use or exportation. The pine trees, should they prove of good quality, were of a scantling sufficient for the topmasts of large ships. Some measured upwards of thirty inches in diameter, and from fifty to eighty feet without a branch.

"The boat's crew were so exhausted by their continued exertion under a tropical sun, that I was reluctantly compelled to relinquish my intention of proceeding to the termination of the tide-water at this time.

"At this place the tide rose but four feet six inches; the force of the ebb tide and current combined,

proved but little greater than the flood-tide, a proof of its flowing through a very level country. Having concluded on terminating the examination of the river at this point, being seventy miles from the vessels, and our stock of provisions expended, not having anticipated such a discovery, I landed on the south shore, for the purpose of examining the surrounding country. On ascending a low hill, rising about twenty-five feet above the level of the river, we saw a distant mountain, which I conjectured to be the high peak of Captain Flinders, bearing south ½ east, distant from twenty-five to thirty miles. Round this point to the north-west, the country declined considerably in elevation, and had much the appearance of extended plains and low undulating hills, well, but not heavily, wooded. The only elevations of magnitude were some hills seven or eight hundred feet high, which we passed to the northward. The appearance and formation of the country, the slowness of the current even at ebb tide, and the depth of the water, induced me to conclude that the river will be found navigable for vessels of burden to a much greater distance, probably not less than fifty miles. There was no appearance of the river being ever flooded, no mark being found more than seven feet above the level of the water, which is little more than would be caused by flood-tide at high water, forcing back any accumulation of water in rainy seasons.

"A consideration of all the circumstances con-

nected with the appearance of the river justified me in entertaining a strong belief that the sources of this river will not be found in a mountainous country. Most probably it issues from some large collection of interior waters, the reservoir of those streams crossed by me during an expedition of discovery, in 1818, and which had a northerly course. Whatever may be its origin, it is by far the largest fresh-water river on the east coast of New South Wales, and promises to be of the utmost importance to the colony, as besides affording a water communication with the southern country bounding upon Liverpool Plains, *it waters a vast extent of country, of which a great proportion appears to me capable of supporting the culture of the richest productions of the tropics.*

" I afterwards proceeded a few miles to the south-east from the river, through a gently broken country of good soil, declining in elevation towards the south ; the high peak before mentioned being the only remarkable eminence from north-east to south.

" As the position of the entrance of the river was still to be fixed, and the channel to be examined, I lost no time in returning down the river with the ebb tide, and stopped for the night at the base of the Green hills ; the highest of which was ascended the next morning, and the view from it was found more extensive than I anticipated.

" So much time was spent in the examination of the country above Sea-Reach, that it was quite dark when we got to the entrance of the river, which, out

of respect to his Excellency the Governor, under whose orders the bay was examined, was now honoured with the name of Brisbane river. The whole of the next day was spent in sounding the entrance and traversing the country in the vicinity of Redcliff point, and we did not reach the vessel until late in the night of the 5th of December, amply gratified in the discovery of this important river, as we sanguinely anticipated the most beneficial consequences as likely to result to the colony by the formation of a settlement on its banks."

Subsequent expeditions of discovery have not verified the conjectures which Mr. Oxley, in the preceding account of the Brisbane, advanced as to its probable source, and the length of its course. The much larger quantity of water which flows down the rivers in the north-east part of the territory of New South Wales, compared with rivers of equal length of course in the southern and western parts of the colony, might easily have led Mr. Oxley to believe at the time of his discovery of the Brisbane, that that river was the largest fresh-water river in the colony, and had a very long course ; whereas it is much inferior in size to the Clarence, and not even equal to the MacLeay river.

The Brisbane river rises in the chain of mountains dividing the eastern and western waters; this range is only sixty miles distant in a straight line from the coast, opposite Moreton Bay ; but from the width of the basin of the Brisbane river, its tortuous

course, and the great number of tributaries it receives, it soon becomes an important stream. The Brisbane is joined on its south side by the Bremer river, rising near Mount Fraser; coal and limestone abound on the banks of the Bremer. The country in the vicinity of the Brisbane river and its tributaries has been found to equal, if not surpass, the very favourable description which its discoverer, Mr. Oxley, gave of that portion which he saw: it is variegated by brush land of exuberant richness, clear alluvial plains of the greatest fertility, and good grassy park-like forest land. Although many mountains round Moreton Bay attain an elevation of nearly six thousand feet above the level of the sea, the country is not so much invaded by those endless, densely wooded ranges of hills, in the closest approximation, which render so large a portion of the Hastings and MacLeay rivers unavailable, though these ranges are frequently of very great fertility.

The Moreton Bay district, now called the county of Stanley, is therefore capable of maintaining a very dense population; for it possesses, in common with the rest of the coast country, from Port Macquarie northwards, a much greater proportion of rich land than the central part of New South Wales, at the same time that it is much more level than the country in the basins of the northern rivers generally. Mr. Martin, in his "Colonial Library," entertains the same opinion of the capability of Moreton Bay to support a numerous population, and

to produce in abundance the tropical productions of sugar, cotton, coffee, silk, tobacco, &c.

Moreton Bay, shortly after its examination by the late Surveyor-General, was made a penal settlement for convicts under colonial sentences, and free settlers were not permitted to resort thither; but a year or two ago, the convicts were withdrawn, and this fine district was thrown open for location. Brisbane Town, a few miles up the river, contains some very good houses and stores of stone or brick, and it possesses the advantage of having in its vicinity excellent building stone, lime, coal, iron, cedar, pine, and other superior timber of useful kinds. Two other Government townships have been formed in eligible situations, one of them being near the mouth of the Brisbane river, and the other above Brisbane Town, at Limestone. This last township will be the terminus for the wool-drays from the upper parts of the district, and the numerous sheep-stations at Peel's plains, Darling downs, Byron's plains, &c. on the western side of the main dividing range. The settlers on the other side of the range, at these different localities, have been for some time in direct communication with Moreton Bay; the descent into the low country being very easy and gradual, through a passage called the Gap.

Wool has been hitherto forwarded from the Moreton Bay district to Sydney in steamers and other coasting vessels, to be shipped from thence to

England, but I see by the latest Sydney papers that the settlers in the vicinity of Moreton Bay are now going to send their wool direct to England from that harbour. Notwithstanding the near approach of this district to the tropic, Moreton Bay being in about 27° south latitude, the climate is quite as salubrious as any other part of New South Wales, and the traveller in the "bush" there can sleep uncovered on the bare ground, ford rivers, ride on in wet clothes, and expose himself to every variation of temperature, with the same impunity as in the more southern parts of New South Wales. The great exposure, to which settlers and travellers in the Australian forests subject themselves, would, in any other clime, infallibly entail upon them fevers, rheumatism, affections of the lungs, &c.; yet their extraordinary exemption from these ill effects has become proverbial, and is the best argument that can be adduced in favour of the salubrity of those parts of New South Wales hitherto colonized. During my surveys at the MacLeay and Nambucca rivers, I found it often necessary to carry lines through extensive reedy swamps, in which I myself and my men were frequently immersed for hours together in stagnant water, which sometimes reached as high as our shoulders; yet although several of the men attached to my surveying party were evidently not of strong constitutions, none of them ever suffered any bad effects from these long continued soakings; they were generally rather pleased on those days

when I traversed swamps, as I had made it a rule to give them an extra ration of rum or wine whenever they got wet.

What a contrast between the climate of New Holland, and that of the United States, to which our fellow-countrymen are so fond of resorting! Ague, marsh fever, and dyspeptic complaints, soon attack the unlucky emigrant who seeks a home in the dreary back settlements of the latter country, amidst fetid morasses, and dank unwholesome forests, where he is oppressed in summer by a close, moist, almost tropical heat, and in winter experiences the violent gradation to a temperature colder than he has ever experienced in his native land. In the southern states, especially Louisiana, yellow fevers, tumefied livers, *et hoc genus omne*, are prevalent; and although Texas is said to possess a healthy climate, yet the adjoining countries have been proved to be so little suited to English constitutions, that I should be rather diffident of trusting to the climate of Texas, unless there existed a very marked difference in the physical conformation of that country compared with Mexico and Louisiana.

Experience is our only guide to enable us to form an opinion of the salubrity of the climate of any country: Hong-Kong was always supposed to be a healthy island, and yet we now learn, after a frightful mortality among our troops and seamen in that settlement, that in order to guard against disease there, it is necessary to take greater care of oneself,

and submit to more annoying precautions than in India itself; it being necessary, for instance, to wear thick cloth clothes in the hottest weather, &c.

There are many inexplicable causes which produce wonderful diversity of climate. Thus, if I were called upon to judge from analogy, I should have no hesitation in saying that Australia was a most unhealthy country for Europeans; for the estuaries of its rivers, its creeks, salt-water inlets and mud flats, abound in mangroves, which have been considered by the best authorities the chief cause of the unequalled unhealthiness of the rivers on the coast of Western Africa. Again, there are in Australia an infinite number of tea-tree morasses, and reedy swamps, covered with stagnant water and rank vegetation; and the changes in the temperature, between day and night, are probably greater in Australia than in any other country, and are also very sudden. Nevertheless, the experience of upwards of half a century has now ascertained that no country in the world is more exempt from all that class of disorders which originate in impure air, and deleterious miasma, than Australia. Indeed, when I informed some persons in Sydney a few years ago, that ague was prevalent at the lower part of the MacLeay river, I was listened to with great incredulity, it seemed to them so totally incompatible with the climate of the colony; yet the reader will not wonder that cases of ague should occur at the MacLeay, for beside the mangrove

mud-flats at its mouth, there are, on its banks, at least 60,000 acres of stagnant swamps covered with high reeds and water; and the decomposition constantly going on in the dense mass of vegetation on the alluvial lands, must also evolve a great quantity of noxious gases.

Notwithstanding these obvious causes of impure exhalations, and the greater heat of the climate, the ague at the MacLeay river is much milder than in the fenny counties of England; the cold fit occurs every other day, but is seldom so severe as to prevent a man from attending to his daily avocations. Change of air, and sulphate of quinine, remove the ague directly, but it is liable to return by fresh exposure to the causes which produced it. Although I have resided upwards of four years at the MacLeay river, I have never known there a single instance in which ague has been attended, even in bad constitutions, with serious symptoms of an inflammatory or typhoidal character.

Should it happen, that, at any future period, labour became sufficiently cheap and abundant, to render it profitable to clear and cultivate the rich brush land on the banks of the Brisbane and Bremer rivers at Moreton Bay, for the production of cotton, sugar, coffee, indigo, rice, &c. that district will become the most flourishing part of the colony.

Dr. Lang, the present member for Port Philip in the Legislative Council, and whose long residence in New South Wales, and intimate acquaintance with

the natural resources of that colony, entitle his observations to great consideration, seems, in his work on New South Wales, to entertain a sanguine opinion of the possibility of forming establishments for the cultivation of tropical productions at Port Macquarie or Moreton Bay. From the great number of experiments which have been made in these two settlements, there is no doubt whatever of those productions succeeding, if largely cultivated, especially at Moreton Bay. Specimens of cotton, grown in the colony, have been manufactured into yarn at Glasgow, and pronounced of *superior quality*. The coffee shrub grows very well, and as I have already observed elsewhere, sugar has been made at the plains on the Wilson river, at Port Macquarie, during the time that that place was a penal settlement ; and I have myself seen sugar-cane growing luxuriantly in Mr. Rudder's garden, at the village of Kempsey on the MacLeay river.

Having read in some of the late Sydney journals some remarks on the practicability of establishing an overland communication with Port Essington on the north coast of New Holland, to facilitate the introduction of Chinese into the colony, it may not be out of place here to quote the following observations made by Dr. Lang ten years ago, on the advantage of inducing Chinese to settle in New South Wales. " It appears to me," observes the Doctor, " that if a tract of land, say from ten thousand to twenty thousand acres, were purchased from the go-

vernment, at one of the northern settlements of New South Wales, as for instance at Port Macquarie, and a thousand families of Chinese settled upon it in one body, either as tenants at a rental in produce, or as proprietors, and allowed to adopt their own manners and customs without interference on the part of the colonists, the tea plant might be introduced with every prospect of success. Were a House of Assembly established in New South Wales, I have no doubt that such a scheme would at least be attempted, and that the funds required for the purpose of carrying it into effect would be comparatively trifling."

The settlers have formed stations considerably to the northward of Moreton Bay, and one gentleman, well known for his enterprising spirit, has established sheep-stations in the vicinity of Wide Bay, which is in 25° south latitude, and nearly six hundred miles from Sydney. A species of palm, bearing an edible fruit, begins to grow to the north of Moreton Bay; there is a large extent of country in which it is particularly abundant, and which is the constant place of resort for a vast number of the Aborigines, who feed on the fruit, which they call *Bunya-Bunya*. In consequence of the large tribes of natives in this region, the Governor has promulgated an order, enjoining the Commisioner of Crown lands at Moreton Bay, not to allow any persons to form stations in those parts of the country in which these Australian date-trees grow. The Catholic clergy in Sydney, with their customary zeal to make

converts to their church, have hastened to take advantage of the constant assemblage of the native tribes at this prohibited region, and have established a mission among them. As the Governor's order will protect these native tribes from the corrupting influence of the lower orders of the white population, the missionaries appear to entertain great hopes that their endeavours to convey some idea of religion to these Aborigines will be attended with greater success, than the many futile attempts hitherto made to convert the Australian blacks to Christianity.

Some German missionaries have been for some time among the blacks at Moreton Bay, and one of them has obtained considerable notoriety from having deliberately accused the squatters in that district of having poisoned upwards of fifty of the native blacks. The squatters of Moreton Bay, are almost all gentlemen of education and good connections, many of them being retired officers; and the ridiculous improbability of the general accusation brought against them by the Reverend Mr. Schmidt was so universally felt in the colony, that little trouble was taken to remove the aspersion cast upon them. On my arrival in England, however, I found that this affair had been seriously taken up by the Aborigines Protection Society, who threatened to have it brought before Parliament; much discussion on the subject has also appeared in the columns of the Colonial Gazette. These German missionaries seemed to be men of great disinterestedness, and actated by the

most philanthropic motives in their endeavours to ameliorate the moral condition of the Australian Aborigines. They were probably misled by the natives, and thoughtlessly made a general accusation against the squatters, without sufficiently reflecting on the grave nature of the charge, and the odium which would rebound on themselves, if they failed in making it good. According to the account of the squatters, it would appear, that some sheep, diseased and scabby, had been dressed as usual with arsenic, which, with corrosive sublimate, is the ordinary remedy for scab. These sheep had been rushed by the blacks, and a number of them carried off, and it is supposed that the arsenic caused the death of some of the thieves.

I have before observed that the Government of New South Wales are about to send out an expedition of discovery, which is to endeavour to reach the settlement of Victoria, at Port Essington, on the northern coast of New Holland, about two thousand miles from Sydney. This enterprise will create the most intense interest in the scientific world, as Sir Thomas Livingstone Mitchell has offered his valuable services to conduct it. The indomitable energy, accurate judgment, and untiring scientific research, which that distinguished officer displayed in his previous well known expeditions*

* Three Expeditions into the Interior of Eastern Australia, with Descriptions of the newly explored Region of Australia Felix, and of the present Colony of New South Wales, by Major Sir T. L. Mitchell, D.C.L., F.G.S., &c. Surveyor-General. 2 vols. 8vo.—London : T. & W. Boone, New Bond Street.

into the interior of Australia, will ensure the success of the enterprise, unless insurmountable obstacles should be encountered.

Although Port Essington is far beyond the extreme limits of the territory of New South Wales, I have thought that it might not perhaps be out of place to insert the following extract from a despatch of Captain Sir Everard Home, of her Majesty's ship North Star, who visited Port Essington last year.

"The settlement at Port Essington stands upon a rising ground on the west side of the harbour, elevated about fifty feet, in the highest part, above high water mark, the soil being a conglomerate of red-stone and sand, which from its dryness evidently conduces to the healthiness for which it is remarkable. The extent between the northwardmost building, which is the hospital, and the Government House, which stands south of it, is 590 paces; and from the water's edge to the western extent is 370 paces.

"The settlement of Victoria stands upon partially cleared ground, and consists of the Government House, which is built of wood, and has a shingle roof; the hospital, which is a building of the same description, which has a kitchen behind it, built of stone, but unfinished; there is a mess room, to which is attached the quarters of the second officer in command of the garrison; the space under it is used as the store-room of the officers; there is another building also of a similar description,

the upper part of which forms the quarters of the store-keeper and linguist, the lower part of which is the spirit room; there are three good store-houses, one of which is the ordnance store; the foundation being of brick work, the sides of wood. The roofs of all these buildings are of shingles. There is another store-house or building used as such, having a thatched roof, which is supported by wooden posts, the sides formed of the same material as the roof. There is a house also made of wood, and thatched with reeds, formerly occupied by Captain Stanley, and used by him as an observatory; there is also the ruins of a church, built of wood, it was blown down by the hurricane, and has never since been repaired; the rest of the buildings are small huts formed for the most part of reeds, twenty-nine in number; the greater part of them are occupied each by two marines, gardens are attached to each of them, which are very productive, and very well kept; these huts form a square in the centre of which is a well. At the distance of about half a mile southward of the square there are two gardens, one near the beach, the soil of which is sandy, and in the wet season saturated with moisture; the other stands upon higher ground, more to the west, and is a better soil; they are about an acre and a half each in extent, and are extremely well kept by three of the marines; of the plants now growing in the gardens, the pine-apples, (part of one I have tasted), are esteemed to be the best, and are improved, as is the cotton, by being transplanted hither; the lemons

are of a thick rind, and without juice; the orange trees are evidently from a state of nature, and the guavas are not of a good kind, but all appear to grow in the most luxuriant manner, and appear in the highest health.

"Of stock they have one English cow, and a bull, two Indian heifers and two cows, about fifty goats, and a few fowls, of which one cow, and several of the goats are the property of Sir Gordon Bremer; another cow, and the bull, besides six working oxen, thirty buffaloes, and six pigs the property of Government; five ponies, and thirty greyhounds for catching kangaroos, complete the amount of the live stock; these last are private property.

"Although the present state of Port Essington is by no means an inviting one to a casual visitor, it holds out, in my opinion, great hopes of success to a permanent settler. Mr. Earl informs me (and a more zealous, acute, or intelligent gentleman I have scarcely ever met,) that the land which is flooded and swampy on the peninsula is as one acre to twenty acres of the dry land; the swamp land can easily be cultivated with rice, and the land not fitted to receive that grain produces the finest cotton; the valleys which are not sufficiently extensive for the cultivation of rice, are admirably adapted for the growth of sugar; cocoa should also be tried, and paper mulberry for the production of silk-worms. Indigo grows wild and is of the best quality; the dry stony land is, in my opinion, well adapted for the cultivation of cactus

opuntia, on which the cochineal insects might be produced to a good effect, with many other useful commodities, which would soon suggest themselves to intelligent settlers. There is plenty of very good soil here to be cultivated; the first consideration is, who the cultivators should be; the natives, of whom the greater number of them here, appear to be of a mild and obliging disposition; they will carry water, and do small offices of service for a small reward of bread or rice, but they will not remain permanently fixed at any one spot. The climate is far too hot for Europeans to labour in. In the opinion of Mr. Earl, settlers from Timor, and the islands northward, would be the best; but from what I have seen of the Chinese, from their activity and intelligence, and other qualities fitting them for such work, I should recommend that they also should be encouraged to settle here.

"In the neighbouring woods there are wild ponies, pigs, buffaloes, and red cattle, the greater part of which is the offspring of the stock left at Port Raffles, when that settlement was broken up. On the main land, opposite to Goulburn Island, two herds of wild buffaloes, consisting of about fifty each, have been seen feeding by the water side.—Kangaroos are very numerous.

"There are five never-failing wells of excellent water. One by the eastern garden, near the sea-side, is high enough, with the addition of a little work, to enable the water in it to be conveyed, by hose or

trough, into the boat upon the shore. The timber here is extremely well adapted for building; it is hard and durable, and is never attacked by the white ant, which is the greatest enemy to be contended with in this place.

"Of the general results which your Excellency has directed me to inquire into, of the communications with British and foreign ships since the foundation of the settlement, and the probable advantages which may be derived from such sources, I have consulted Mr. Earl, and his opinion is, that one of the objects in forming this settlement was, that it might become a port of refuge for vessels that had received damage in the adjacent seas, and for the crews of such as might be lost: it has certainly proved beneficial.

"In 1841, the crew of the Montreal, a ship which had been lost on Alert reef, to the westward of Torres Straits, came to this port in their boats, and as the monsoon blew that year with great strength, it is doubtful if they could have reached any port in Timor. The Lord Auckland was hove down here and repaired by Captain M'Arthur. The two strongest cases were those of the ship Manlius and the little cutter Harriet from Timor; had not this settlement existed, the crew of the former must have perished, their provisions being nearly expended, and they would have been unable to leave this coast for nearly three months, owing to the monsoon, if she had not, indeed, caught fire from her damaged cotton long before the period elapsed."

The point from which Sir Thomas Mitchell proposes, (according to the Sydney papers,) to start into the unknown interior towards Port Essington is the stockade on the Darling, made by him in his journey down that river, and which is about four hundred and fifty miles from Sydney.

Having in the foregoing pages thus attempted to describe the north-eastern part of the territory of New South Wales, which the late ministry at one time intended making a separate colony, and of which Moreton Bay was to have been the seat of Government, I will now briefly recapitulate, in general terms, the distinctive features of this part of New South Wales compared with its central districts.

Firstly, *Its Geological formation*, which, instead of being sandstone, so generally predominant, south of the river Hunter, consists of rocks, mostly of primitive or transition origin, such as granite, trap, ancient limestone, slates, &c.* Now in Australia,

* I have already observed, in the commencement of this work, that in Australia the rocks exercise a more marked influence on the vegetation growing on the soil which covers them, than in any other country. In estimating the quantity of land in any part of Australia, the nature of the subjacent rock, and the general formation of the surrounding country, should be considered of paramount importance. With regard to the influence of rocks on soil, Hausmann, in his work on the Connection of Geology with Agriculture and Planting, has observed that "from what has been said of the relations existing between the masses of which the crust of the globe is composed, and the loose earth or soil by which it is covered, it appears evident enough that they have great influence over its formation and nature, and therefore upon the more per-

all these classes of rock furnish, by their decomposition, a much more fertile surface soil than sandstone.

Secondly, *The general mountainous nature of the country, the very great altitude of the mountains, exceeding six thousand feet above the level of the sea, and their proximity to the coast.* These mountains accumulate and condense the vapours from the sea, and occasion frequent rains; they also mitigate the scorching heat of the hot winds from the north-west, which are so severely felt in Sydney, although that city is so much farther south.

Thirdly, *The abundance of water everywhere, and the great number of navigable rivers in close proximity to each other.* Thus from Moreton Bay to the Manning river, the southern boundary of the county of Macquarie, which is not more than two hundred and seventy miles along the coast, there are no less than nine rivers with bar harbours, which can be entered by coasting vessels and small steamers; viz. the Brisbane, the Tweed, the Richmond, the Clarence, the Bellengen, the MacLeay, the Hastings, Camden Haven creek, and the Manning.

Lastly, *The adaptation, for the culture of tropical productions, of the rich alluvial soil on these*

fect vegetables, and especially those which are the objects of cultivation; and that, although the fertility of the soil is much increased by these vegetables themselves, yet the first foundation of their vigour was derived from the disintegration and decomposition of rocks."

rivers, which soil extends in continuous narrow borders of brush land along their banks. The inexhaustible productiveness of this kind of land I have already alluded to; it is unknown in European soils, and can only be paralleled by that of the alluvial flats of tropical countries. These rich brush lands are not available in the present state of the colony; for it would never answer to clear them of the dense mass of indigenous vegetation which encumbers them, for the culture of the mere ordinary agricultural productions of New South Wales. Should cheap labourers, such as Chinese or Coolies, ever be introduced into the colony, it is not improbable that, at some future period, the banks of these northern rivers may be diversified by plantations of sugar-cane, cotton, coffee, rice, &c.; for all these productions have been ascertained from experiments to succeed well north of Port Macquarie. There would be one great advantage also, that the climate would be better suited to Europeans, than that of almost any other country in which these productions are grown. In the meanwhile, the brush land, which has been cleared of trees in the districts of Port Macquarie and Moreton Bay, and the naturally unwooded alluvial flats, which the squatters on the intermediate rivers cultivate, yield, with little trouble, crops of maize, more certain, abundant, and of better quality, than the central parts of New South Wales; wheat, as I have before observed, grows better there on alluvial land, in dry

than in moist seasons; and the tobacco is of very superior quality; and if its manufacture were properly understood, it would be a most profitable article to cultivate, the duty imposed by the colonial legislature on foreign tobacco being so great.

The north-eastern part of the territory of New South Wales, will also be found pre-eminently suited for the cultivation of the vine, from the great prevalence of lightly wooded undulating fertile ranges, the rocks and soil of which are such as experience has proved the best suited for the production of superior wine. The hot winds from the north-west, and the cold south wind, being almost unknown in the Port Macquarie district, that part of the colony especially, seems remarkably adapted for the formation of extensive vineyards; a few patches of vines have already been planted there in different places. Dr. Carlisle has a vineyard near the town of Macquarie, on a fluviatile sandy flat, and although a situation such as this is not in general favourable for vines, he has nevertheless made some very good wine. Two or three acres have been planted with vines at the village of Kempsey on the MacLeay river; they were thriving uncommonly well when I last saw them.

It must not however be imagined, from the foregoing observations, that I consider the coast country, north of Port Macquarie, superior to other parts of the colony for agricultural and pastoral pursuits, or other ordinary colonial occupations, unless vine-

yards. For it is too mountainous, densely wooded, and swampy, to be so good as many other parts for sheep, and wheat and potatoes do not grow there so well as in the extreme southern districts. My object, in publishing the foregoing observations on this part of the territory of New South Wales, has been to show that it is in a great measure exempt from that extreme aridity in the aspect of the country, which characterises Australia generally; whilst it is well adapted for the production of many objects of cultivation, such as rice, cotton, sugar, indigo, &c. for which its warmer and moister climate, and the rich belts of alluvial soil on the banks of its rivers and streams, are peculiarly suited.

PART III.

The present depressed state of New South Wales—Its causes—Sheep—Their depreciated value—Sheep-boiling—Price of Australian Tallow in London—The practice of Sheep-boiling defended—Sheep, still a profitable investment when purchased at a price determined by the intrinsic worth of their Skins and Tallow—Calculations to show the income that might be then derived from Sheep—No Foreign Countries, or other British Colonies, able at present to produce Wool and Tallow cheaper than Australia—Price of Australian Wool not regulated by the cost of production, but by the state of the Home Market—Life of the Australian Settlers not necessarily deprived of all the conveniences and comforts of civilization—Horned Cattle—Australian Beef considered of inferior quality in London—Intrinsic value of Cattle when slaughtered for their Hides, Tallow, &c.—Calculations showing the income derivable from Cattle when they are purchased at a price determined by the value of their Hides, Tallow, &c. only—Agriculture, a very uncertain occupation in Australia—Excellent quality of the Australian Wheat; its capability of supporting long voyages without deterioration, and the high price obtained for it in the London market—Maize of New South Wales superior to that of the United States—Prices to which Wheat and Maize must fall in Sydney to allow of their being exported to England—Grain might perhaps be advantageously grown, in some few favoured localities, at these low prices, by persons purchasing improved farms at their present low value—Calculations on this subject—Districts exempt from droughts—Causes of this exemption—Vineyards—Good quality of the Wines hitherto made in New South Wales—Varieties of Grape successfully cultivated—

Remarks on the French Vineyards—Expenses attending them —Calculation of the profit derivable from Vineyards in New South Wales—Remarks on planting and cultivating the Vine.

THE total annihilation of all confidence, and the depressed state of the money market, or, to use the favourite colonial term, "*the monetary confusion*," now prevalent in the colony of New South Wales, have continued for such a considerable time, and have afforded as yet, so little prospect of ultimate amendment, that serious apprehensions have been entertained, that the colony will never recover from the blow her former prosperity has received. Property of all descriptions is quite unsaleable, and not a day passes without several new declarations of insolvency.

The causes of the lamentable confusion in which the affairs of the whole trading community of New South Wales have been so long involved, have been discussed *usque ad nauseam*, both in and out of the colony. Many writers in the Sydney newspapers, reviews, &c. have however displayed considerable cleverness in analysing and explaining, what they considered to be the origin of the present disorganised state of affairs in New South Wales. Although they differ with each other in some respects in the conclusions they have individually arrived at, yet I think most persons will allow that the following causes have been very instrumental in bringing about the present disastrous state of things.

The speculative mania which pervaded all classes

of the community ; and the absurd ideas entertained respecting the value of land, and town allotments, &c. which induced the deluded colonists to pay, for solitary wastes which they had never seen, sums so large, that they are now astonished at their former folly, since the present reaction has aroused them from their golden dreams. This rage for speculation was very much encouraged by the loose un-English system of transacting business in New South Wales; long extended credit at high interest was readily accorded on the slightest security, whilst the directors of several of the colonial banks mutually afforded to each other, and their friends, the most unwarrantable accommodation in discounting bills, to the exclusion of many bills much safer than their own, but drawn and accepted by parties unconnected with bank directors. The disgraceful circumstances which have been brought to light in the late investigations into the affairs of two colonial banks which have now closed, are, in themselves, quite sufficient to prove the great share the banks have had in producing the present monetary crisis. As to the land mania, it was in a great measure produced by the system of selling Crown lands by public auction, and thereby exciting an unfortunate spirit of competition, which drained the colonists of that money which ought to have been employed in the more legitimate objects of colonization, such as agriculture, vineyards, &c. Old settlers and newly arrived emigrants, merchants, and mechanics, all

hastened to outbid each other at the Government sales by auction, and purchased at exorbitant rates, sections and allotments of land which they had probably never seen, and which were often hundreds of miles from Sydney, and in situations such, that if they had only listened to the dictates of common sense, they must have perceived that they were often paying for their land ten times more than it was worth. When the Government thus set the example of exciting competition for land, the same spirit, of course, prevailed in all private land sales; innumerable plans of fine towns and cities, (at least on paper,) divided into red and green allotments, with reserves for market-places, churches, parks, cemeteries, &c. were prominently displayed in every corner of the auctioneers' sale-rooms in Sydney; and it mattered little where the sites for these projected towns had been chosen; whether one hundred or five hundred miles from Sydney, the allotments were certain to be eagerly bought up. Most of them might be appositely compared to the famous American city of Eden, in Boz's new work; and at the present time, many of the allotments of some of these imaginary towns might be purchased for fewer pence, than they were, at one time, supposed to be worth pounds. Indeed, in the prosperous times, three or four years ago, scarcely any one purchased land for its fertility, or capability of being converted into good farms; for not one person in a hundred built on, or improved the ground

he had bought; the principal motives which influenced these speculators in their purchase of land, was because it was near some Government village, reserve, or else possessed a frontage to some river or road, which would cause it to look well on paper, and consequently resell to advantage, if redivided into small lots, and called "*a town*," with some grand euphonous appellation. Many persons also threw away their money in the purchase of land they had never seen, and were totally unacquainted with, with no other reason for so doing than the notion that all land in the Australian colonies must go on increasing in value, whatever might be the price originally paid for it.

Another cause of the present involved state of affairs, has been the boundless extravagance of all classes of the community, and the consequent enormous importation, in proportion to the population of New South Wales, of mere articles of luxury, such as carriages, jewellery, plate, the most expensive furniture, rare wines and liqueurs, &c. To this may be added the great consumption of imported articles, which the colony was perfectly able to produce itself, such as hams, bacon, butter, cheese, beef, flour, wine, fruits, pickles, &c. &c.

The fall in the price of wool, and the cessation in the emigration of persons of capital to the Australian colonies materially assisted also in producing the present depression.

Whatever may be the predominant cause of the

present deplorable state of affairs in Sydney, I do not think that confidence and a healthy tone will re-appear among the commercial community of that city, until all those traders and merchants, (who are not able to meet their engagements and are now striving to hang back from the fatal goal of insolvency, to which they must perforce arrive, sooner or later,) pass away, and are succeeded by a new class of merchants, possessing the full confidence of respectable houses in England; men, for instance, totally unconnected with all previous colonial transactions, and consequently never involved in that frantic mania for speculating so far beyond their means, and those reprobative practices of mutual accommodation, partial discounting, systematic bill-dishonouring, &c. which have stamped a stigma on the mercantile community of New South Wales, that will require a long time to efface in the minds of those persons in England who have suffered from their connection with that colony.

The distress, which has existed among the flock-masters of New South Wales, and the distress of the merchants and traders, are, in my opinion, much more independent of each other than is generally supposed. The grand cause of the ruin of so many of the settlers has been the depreciation in the value of stock; sheep having fallen, in a very short time, from upwards of £2. per head to about half a crown, and cattle from £9. or £10. to £1. Of course those who bought sheep and cattle at these high prices,

were ruined by their rapid and unprecedented depreciation in value.

The cause of sheep having originally attained so high a value was the high price of Australian wool in the London market, and the great influx of emigrants of capital from Great Britain, who all eagerly purchased flocks of sheep at any price, under the idea of making rapid fortunes. When however, from various causes, the emigration of persons of capital was diverted from New South Wales to other colonies, the surplus sheep found no buyers, for the number of wethers required by the butchers, &c. was a mere trifle compared with the supply. The flock-masters, being thus unable to sell their surplus sheep, became panic-struck; for most of them were more or less embarrassed by engagements contracted with the supposed certainty of being able to meet them by a sale of some of their sheep; moreover, as the wool scarcely paid the expenses of its production, leaving the increase for profit only, the notion became prevalent that sheep were all but valueless. The price of sheep therefore fell to two or three shillings per head; and to increase the mischief, those merchants and other persons who had been so forward in giving credit to the supposed prosperous sheep-owners of New South Wales, now pounced upon their flocks at this critical moment, and the sheriff was constantly engaged in selling sheep by execution all over the colony. At some of these forced sales

sheep have been sold for cash, for less than one shilling per head, scarcely half the value of a skin!

Matters continued in this bad state until Mr. Frederick Ebsworth of Sydney suggested the plan of slaughtering and boiling down sheep, for their skins and tallow. The feasibility of this suggestion was immediately felt by most of the flock-masters in the colony; numerous experiments were made as soon as possible at various places, and the result was extremely satisfactory, as the quality of the tallow was very good, and the quantity, yielded by sheep in average condition, was quite equal to the most sanguine expectations.

All these experiments have appeared in the columns of the Sydney Morning Herald, the leading journal of the colony, and the strenuous advocate of the necessity of creating new articles of export.

In consequence of the discovery of this novel way of turning sheep to account, extensive sheep-boiling establishments have been formed in eligible situations near the coast, to boil down the sheep, sort and pack the tallow, skin, wool, &c. The following advertisement, respecting one of these establishments at Hunter's River, is extracted from "The Australian," of October 3rd, 1843, and will shew to the reader the expenses attending the conversion of sheep into tallow.

"SHEEP-BOILING AT WINDERMERE, NEAR MAITLAND.

"MR. WENTWORTH having engaged a competent superintendent to boil down his own surplus sheep, is willing to accommo-

date the settlers in the districts of the Hunter, Wellington, Liverpool Plains, and New England, at the following charges:—

	£.	s.	d.
"Slaughtering, skinning, cutting-up, and boiling sheep, rendering caul and kidney fat separately, packing the tallow and boiled fat in the sheep skins, in suitable and secure parcels for exportation, marking and lettering those bags so as to distinguish the quality, and putting the same on board the steamer at the Green Hills,—at per sheep	0	0	9
"Washing skins, taking off the whole of the wool, drying and putting it into clean packs, and carrying those bales to the steamer—at per sheep	0	0	3

"The proprietor of the sheep will have to pay the freight of the wool and tallow to Sydney; or, if he should wish it to be paid for him, he must, before boiling the sheep, give notice of such to the superintendent at Windermere, who will take, at his option, wool at 1s. per lb., or tallow at 2½d. per lb., in payment of all charges: the freight of wool being 7s. per bale to Sydney, and of tallow 1s. per cwt. The goods will be shipped on board the steamer on account and risk of the proprietor.

"Grass will be provided gratis, and shepherds will receive rations at a moderate charge. And if required by the master, the wages coming to them will be paid, and deducted at the above rates.

"Such of the hind legs as may be required for the use of the establishment, will be allowed for at ½d. per lb.

"*** The offal and refuse of the carcase, after extracting the tallow, to belong to the establishment."

This sheep-boiling process was in full operation for two months before I left the colony, and it has now been ascertained, from the experience acquired since

its commencement, that (making every allowance for the expenses of slaughtering, boiling down the fat, packing, freight, duty, &c.) the probable value of sheep of the ordinary average condition will be about five shillings per head. I see by some of the late Sydney papers, that tallow in Sydney is only quoted at £25. per ton; some of it has, however, lately arrived in London, it was much approved of, and sold as well as the best P.V.C. tallow, the prices obtained for it being upwards of £40. per ton.*

It will be easy to show, that this suggestion of Mr. Ebsworth, joined with the present moderate rate of shepherds' wages, has again rendered sheep a most profitable and safe investment for capital; but as many persons, especially in England, consider it the greatest folly to kill sheep for their mere skins and fat, when such a large sum is derived yearly from their wool, I will first make a few observations in defence of the practice of "sheep-boiling." Among those who ridicule it, is the editor of the late Sydney Gazette, who, in the Colonial Gazette, in a long article on the state of New South Wales, deprecates the plan of slaughtering sheep for tallow in the followiug terms. "As drowning men are said to catch at straws, so have many flock-masters caught at the *trap* of killing and boiling down their sheep

* It would be, perhaps, more profitable to the colonists of New South Wales to convert their tallow into stearine, and send it in that form to England.

for tallow, by which process they hope to realise at least 5*s.* per head for their surplus stock of sheep. It can be scarcely necessary to descant upon the ruinous absurdity of this scheme; for as long as the flock-masters can realize $7\frac{1}{2}d.$ per head for the fleece of one sheep, he must be an arrant fool to sell the *principal*, if I may so speak. Should this plan be persisted in for a year or two, as I strongly suspect it will, the aggregate stock will be so considerably reduced that we may expect in the years 1846 and 1847 to find sheep up to £1. or even £1. 10*s.* which will reproduce many of the evils under which the colony is at this moment labouring."

Now it is worthy of remark, that instead of being persons in difficulties, "drowning men catching at straws," those settlers, who have been the first to kill and boil down their sheep for tallow, happen to be men of the greatest wealth, intelligence, and experience, among the colonists, such as W. C. Wentworth, Esq. M. C.; Henry O'Brien, Esq., of Yass; Mr. Scott of Glendon, &c.

This writer also appears to entertain the idea, that *wool*, besides covering all the expenses of wages, stations, &c. yields a certain amount of profit to the flock-master, independent of that derived from the yearly increase of his flocks. Now *wool* barely counterbalances the cost of its production, leaving the increase alone for clear profit; and when the flock-masters were totally unable to dispose of this increase, it was high time to adopt some such

scheme as sheep-boiling to make a profit on the capital they had invested in sheep. As to the great reduction in the aggregate stock of sheep, which this gentleman suspects must result from the plan now pursued, I will only observe that the intention of the flock-masters is not to reduce their flocks, but to keep them stationary, so as not to be under the necessity of frequently augmenting their stations and establishments, in consequence of the great yearly increase of their sheep, which increase, this writer has himself remarked, in the article alluded to, may be fairly taken at 75 per cent. From the millions of sheep in Australia, it will be evident, that when the yearly increase is so great, the butchers might be abundantly supplied, and many hundred tons of tallow exported, without the flocks suffering any diminution in number. This sheep-boiling speculation will also produce great good in stamping a minimum value on sheep, a value depending on the comparatively little fluctuating markets of the mother country; and should a new demand for sheep arise from the emigration of persons of capital to New South Wales, sheep may increase in price from that cause, but under no circumstances can they again fall below their minimum price, determined by the intrinsic worth of their skins, wool, and tallow. No one therefore can do wrong in purchasing sheep at their present prices; they can fall no lower, and will in all probability rise considerably higher, as the commercial affairs of Sydney

emerge from their present chaotic state of confusion, and emigrants with capital once more quit England for New South Wales.

In the article on the state of New South Wales, forwarded to the Colonial Gazette, by the late editor of the Sydney Gazette, that writer has observed, that "paradoxical as it may appear to some, who only glance at the surface of things, there never was a time, since the foundation of New South Wales as a British colony, when capital could be invested therein to so much advantage. Horned cattle, in *mixed herds*, can be purchased for cash at the rate of £1. per head; horses at £10.; sheep at 3*s*.; houses in Sydney at less than their original building price, or, in other words, for the present value of the materials—to such distress is the colony reduced."

Supposing that a person purchased sheep at the rate of 5*s*. per head, and that they remained stationary at that price, it would be very easy to show, that after making every allowance for wages, rations, land carriage, average risk of loss from catarrh, scab, outrages and depredations of native blacks, &c. that such a person would clear annually, at the least twenty per cent. on the money so invested: thus an emigrant investing £1500. in sheep and stations, would realize annually £300. clear of all expenses. In order to shew this, I will suppose that 3500 young ewes dropping their lambs are purchased; if ordinary ewes and wethers are assumed

to be worth five shillings, these would be worth six shillings.*

3500 ewes at 6*s*.	£1050
100 rams at 6*s*.	30
Expense of forming stations, and purchasing working bullocks, drays, tarpaulins, &c. .	220
Floating capital lodged in the bank to meet wages, rations, and other incidental expenses during the first year . . .	400
Capital invested .	£1700

To simplify the calculation, I will assume that the wool pays all the expenses of wages, rations, squatting license, assessment, woolpacks, &c. At the present low rate of wages, (shepherds' wages being, according to the latest accounts from Sydney, only from £16. to £18. a year with rations), I have no doubt that wool will henceforth cover all these expenses, and leave a surplus to be added to the profits. According to my assumption, therefore, the value of the increase will represent the true profit

* Since I wrote these remarks on sheep, I have seen Sydney papers of as late a date as last Christmas. From them I find that sheep have not risen beyond the value of three shillings per head. Nevertheless, according to contemporaneous advices from the neighbouring colony of South Australia, sheep are quoted there at from eight to ten shillings per head !! There are quite as many sheep in the latter colony as in New South Wales, in proportion to the population, and the South Australian wool is of inferior price in the home market to that from Sydney. I cannot, therefore, account for the discrepancy.

derivable from sheep; due deduction being of course made to counterbalance the loss from disease and depredations, both among the original flock and the increase.

I will suppose that the 3500 ewes will at any rate drop 2800 lambs, which is considerably less than the yearly increase that Captain Sturt and other writers have assumed. I will also deduct ten per cent. both from the purchased ewes, and the lambs, to allow for losses incurred through disease, depredations, &c.

At the expiration of the first year we should therefore have, (rams not included).

3500 — 350 = 3150 ewes.
2800 — 280 = 2520 yearling lambs.

At the expiration of the second year, at the same rate of increase, we should have, (ten per cent. being deducted for loss from disease, &c.)

3150 — 315 2835 ewes.
2520 — 252 = 2268 young ewes and wethers.
2520 — 252 = 2268 yearling lambs.

Retaining a sufficient number of ewes to keep the breeding flocks at their original number of 3500, there would remain 1603 surplus sheep to dispose of, or convert into tallow, at the end of the second year, which at five shillings each, would realize in round numbers £400; we should then have at the commencement of the third year 3500 ewes, and 2268 yearling lambs.

At the expiration of the third year, we should have

3500	—	350	=	3150 ewes.
2268	—	226	=	2042 young ewes and wethers.
2800	—	280	=	2520 yearling lambs.

Retaining 3500 ewes, and the lambs, we should be able to dispose of 1692 sheep, which, at five shillings each, would be worth £423.

At the expiration of the fourth year there would be

3500	—	353	=	3150 ewes.
2520	—	252	=	2268 young ewes and wethers.
2800	—	280	=	2520 yearling lambs.

Retaining 3500 ewes, and the lambs, there would remain 1918 sheep for sale or conversion into tallow, which, at five shillings per head, would realize £479, neglecting the shillings.

At the expiration of the fifth year, and every succeeding year, the surplus sheep, according to the data I have assumed, would be worth £479.

We will now see what will have been the average annual profit during six years on 3500 ewes :—

		£.
End of	First year . .	0
"	Second year . .	400
"	Third year . .	423
"	Fourth year . .	479
"	Fifth year . .	479
"	Sixth year . .	479
		6) 2260
		£ 376

The capital, which I have assumed as requisite for the produce and management of 3500 ewes, at six shillings each, is £1700. (see page 138); and the annual average profit being £376, the clear gain would be at the rate of about twenty-two per cent yearly, according to the data I have based this hasty calculation on. The flocks would always continue as valuable as the original ones, for the more aged ewes, would be of course replaced by young ones, before the former had at all deteriorated in condition. I think that the Australian colonies will always be able to compete advantageously with other countries in the production of wool and tallow. The extensive plains of South America, are certainly eminently qualified for the rearing of sheep, and at present swarm with herds of cattle; but, notwithstanding its comparative vicinity to England, the unsettled state of that continent, and the difference of duty* turn the scale infinitely in favour of Australia. As to Southern Africa and the Cape of Good Hope, the sheep in that colony are very inferior to New South Wales; and the expenses attending their management, and the risk of loss, are inconceivably greater, in consequence of the vast number of ferocious beasts of prey, with which that part of the globe is infested. The Cape will never therefore rival Australia in the production of wool and tallow.

In the latest edition of the Encyclopædia Bri-

* The duty on foreign tallow is 3*s*. 2*d*. per cwt., and from British possessions only 3*d*. per cwt.

tannica, in the article "Wool," there are some very sensible observations with regard to the wool of New South Wales, which I shall take the liberty of quoting.

"The great advantage of the growth of wool to a new colony like New South Wales is, that what really amounts to a large resource for her, forms but a small proportion of the whole quantity required in the market which she supplies. Thus the price of the article is not regulated by the cost of production, but by the state of the home market. Australia enjoys an advantage which is somewhat analogous to the rent of the most fertile land in old countries. The demand of the consuming countries, greatly exceeding the power of supply possessed by Australia, and no other country being able to produce so cheaply, the price is kept up to the European cost of production. Thus they enjoy a species of monopoly of price. This has hitherto been the case with the cotton of America. It is now scarcely sixty years, since cotton was first exported from America, and this year the production is about 600,000,000lbs. The following has been its progress in round numbers:—

1790	1,000,000
1800	35,000,000
1810	85,000,000
1820 . . .	160,000,000
1830 . . .	350,000,000
1840 . . .	600,000,000

"The price of cotton, owing to the large demand created by our continually improving machinery,

has generally exceeded the cost of production. This has generally stimulated production, and yet not so rapidly as the demand increased; hence the cotton of America, has gone on displacing successive portions of Eastern cotton, until the former now occupies all the channels of consumption; and so it will be with Australian wool. The consumption of foreign wool alone in England, is fifty millions of pounds. The greater portion of this will probably be displaced by the Australian colonies. In like manner it will gradually cease to be worth while to raise sheep for their wool in many of the countries which now produce it."

The following table of the importation of wool into the United Kingdom in 1835 and 1838 is also extracted from the Encyclopædia Britannica.

	1835	1838
Germany	23,798,186 lbs.	27,506,282 lbs.
Russia	4,024,740	3,769,102
Rest of Northern Europe	1,157,345	1,063,074
Spain	1,602,752	1,814,877
Italy	1,051,005	1,758,894
Greece	1,281,839	848,091
Rest of Southern Europe	1,304,416	1,040,613
Northern Africa	816,625	511,426
Southern Africa	191,624	422,506
Rest of Africa	5,102	1,867
Australia	4,210,301	7,837,423
East Indies	295,848	1,897,266
Rest of Asia		
South America and Mexico	2,195,400	4,059,958
North America	239,349	62,976
All Countries	42,174,532	52,594,355

The expense of converting sheep into tallow, in New South Wales, sorting and packing the skin, wool, &c. has been taken at one shilling per sheep, that being the price charged at the sheep-boiling establishments (see page 133). Mr. Ebsworth, in a letter to the Editor of the Sydney Morning Herald, supposes that all the expense of slaughtering, boiling, &c. might be covered, by converting the pelt, horns, hoofs, sinews and gut into glue; each sheep would yield on an average four pounds of glue, which would be at any rate equal to the "Country glue," which was quoted at from 38 shillings to 46 shillings per cwt., London glue being 50 shillings to 54 shillings per cwt. at the same time.

A person with a small capital, which he has invested in sheep in New South Wales, would find that his occupation as a flock-master in that colony, would be attended with little of that intense application to business, long continued toil, or harassing cares and anxiety, which necessarily fall to the lot of the small capitalist in England, who embarks his all in a desperate and unequal struggle with the over numerous competitors in every profession or trade in the mother country. The greatest drawback to the life of an Australian settler is the solitude, and the absence of the conveniencies of civilization. With some persons, however, this would be more than counterbalanced by the feeling of unrestrained independence they would enjoy; and the bushman of Australia, unshackled by the customs and con-

straint of civilized communities, may roam through the grassy wilderness, with his horse, gun, and kangaroo-dogs, with a thousand times more freedom than the wildest chiefs of the African deserts, or American savannahs.

However, even in the most distant regions of New South Wales, beyond the limits of location, there is much more intercourse among the squatters, or licensed occupiers of land, than would be imagined. In those districts near the coast, many of the squatters are retired officers, who are often married men, with large families; of course, wherever female society extends its influence, the bush-life of Australia is deprived of much of its roughness, and the agrèmens of civilized life are in some measure preserved by small social reunions, music, boating parties, races, &c. In the inland districts the squatters are, however, generally unmarried, most of them being young men of education and of good connections at home. The life they lead is of the most wild and reckless character, their only amusements in the country being kangaroo hunting, with the occasional excitement of a hurdle race, or steeple chase. They generally travel down once a year to Sydney, to sell their wool, and purchase supplies for the ensuing year. During their brief residence in town they participate largely in all its gaieties, to make amends for their long banishment in the wilderness.

The squatters of New South Wales are, on the

whole, a strange race. In general they submit, from mere indolence or carelessness, to great privations, especially with regard to the comforts of their table; although a little trouble and instruction to their servants, ought to supply it with abundance of vegetables, poultry of all descriptions, &c. &c. without any expense. I have myself known many squatters, who during the prosperous times possessed large incomes from their wool, and yet, through mere carelessness, were content to live on an unvarying course of salt beef, damper, and tea; although, during their annual visits to Sydney, they lived in the most extravagant style, at first-rate hotels, keeping two or three horses at livery stables, and drinking Chateau-Margaux, Hock, and Champagne. The following is a specimen of the daily life of the generality of the squatters at their stations in the bush. On awaking in the morning the squatter lights his pipe, and smokes while his breakfast is being prepared. This consists of a huge heap of mutton chops, or a piece of salt beef, and damper, which he washes down with an ocean of strong green tea, literally saturated with coarse brown sugar. After breakfasting, the squatter again lights his pipe mounts his horse, and sallies forth on his daily avocations among his sheep or cattle. The short well blackened pipe, his constant companion, is frequently replenished in the course of the day; his dinner is the counterpart of his breakfast, viz. mutton-chops, or salt junk, damper, and tea viscid

from excessive sweetness, which would create nausea in an English stomach, but to which our bushman has gradually habituated himself. In the evening the squatter smokes, reads, or writes, until supper, when another vast mass of meat and tea is again brought forward ; and then, after smoking one more pipe, he goes to bed.

This rough and comfortless life has been supposed to be unavoidable in the distant districts beyond the limits of location, but such is not the fact. I have often visited the stations of squatters who possessed but one man-servant to perform the multifarious duties of cook, gardener, &c. and yet their slab-cottages were kept in the most scrupulous state of neatness and cleanliness, whilst their tables were constantly supplied with fowls, geese, &c. butter, cream, all kinds of vegetables, home brewed beer, and properly made bread.

Having attempted to show that sheep in Australia still offer considerable profit to those who invest money therein, I will next examine horned cattle in the same manner. The cause of the depreciation in the value of sheep, affected cattle also; for the colony was swarming with herds, the owners of which could find no buyers for their rapidly increasing stock, as the consumption was trifling compared with the supply. The stockholders of New South Wales have, therefore, lately slaughtered and salted a great number of cattle, and exported the meat to India, China, New Zealand, England, &c.

I have not heard what success has attended these shipments of beef to the former countries, but in England, the Australian beef, which has hitherto arrived, has been pronounced inferior to that of Canada and the United States, and the price offered for it is not such as would render it profitable to send any more of it to Europe; that is, if the beef which has lately arrived from Sydney and Port Philip, is a fair sample of New South Wales' meat generally, which I am rather inclined to doubt, as I have certainly seen beef from aged bullocks in that colony, fat, juicy, and apparently unexceptionable in every respect. The faults most complained of in the Australian beef just arrived, are the great quantity of inferior salt that has been used in curing it, the objectionable way in which it has been cut up and packed, and its dryness. The former faults might be remedied; but under the present tariff, so favourable to the Americans, I think it will be found much more profitable for the Australian stockholders to slaughter and boil down their surplus cattle for their tallow, hides, horns, and bones, than to salt them for exportation, (at least to the mother country). I think also that it would be practicable to make some sort of glaze, or preserved concentrated soups, which could be supplied at a very low figure, and yield a considerable profit, as good bullocks are only one penny a pound in Sydney at present.

In examining into the degree of profit which may henceforth be likely to attend the rearing of horned

cattle in the Australian colonies, I will therefore only consider cattle as valuable for their tallow, hides, horns, glue, and bones. Ordinary four-year old bullocks, and cows of the same age, would, if slaughtered and boiled down, yield at any rate eighty pounds of tallow, whilst fat bullocks of six years old and upwards would yield a much larger quantity.

Some Australian tallow having been sold for 42*s.* per cwt. in the London market, I will suppose 32*s.* per cwt. to be the value of the tallow to the stock-holder, which will allow amply for the expense of slaughtering, boiling, freight, &c,

The intrinsic value of a four-year old beast may be therefore taken as follows:—

80 lbs. of tallow at 32*s.* per cwt. .	£1	5	6
Hide, horns, glue, bones, refuse soup, and meat, &c.	0	14	6
	£2	0	0

In the event of the Australian colonists being unable to sell their salted beef, mixed herds of cattle might still therefore be safely assumed to be worth at least thirty shillings per head.*

Although the yearly increase of horned cattle is

* According to the latest advices from Sydney, cattle cannot be sold for more than 18*s.* to £1. per head, whilst in the neighbouring colony of South Australia, which possesses as many cattle, in proportion to its population, as New South Wales, they are quoted at from £3. 10*s.* to £5. per head.

not so great as that of sheep, yet the great exemption of the former from disease or casualties, and the very small expense attending their management, rendered cattle, during the prosperous times of the colony, the favourite stock, especially for newly arrived emigrants. The only disorder, which appears occasionally among cattle in New South Wales, is black leg, or black quarter; it is of very rare occurrence, for although we had about two thousand head of cattle on our run at the MacLeay river, we did not lose more than half a dozen from this disease.

During the period that I took an active part in the management of our cattle at the MacLeay I did not notice more deaths from accidents or disorders than at the rate of two per cent.; for as our cattle were all branded with our initials, consecutively numbered, and enrolled in our cattle book, with their descriptions annexed, it was easy to ascertain the exact losses at our periodical musters. In the following calculation I have allowed $3\frac{1}{3}$ per cent. for deaths from disease or accident in each year, on the whole number of cattle; I have also assumed that the cows drop yearly sixty per cent. of calves, which, being subject to the same deduction of $3\frac{1}{3}$ per cent., would give about fifty-five per cent. yearly increase.

In order then to arrive at some sort of estimate of the probable profits attending the rearing of horned cattle, when purchased at a low price, deter-

mined by the value of their hides, tallow, horns, &c. I will suppose that the following mixed herd of cattle is purchased.

	20	Bulls.
	350	Cows dropping their calves.
200	100	Three-year old bullocks.
	100	ditto cows dropping their calves.
200	100	Two-year old steers.
	100	ditto heifers.
230	115	One-year old steers.
	115	ditto heifers.
	1000	Total number.

Having assumed four-year old beasts to be worth £2. each, (see page 149), a mixed herd of horned cattle like this, would be worth £1. 10*s*. per head.

One thousand head of cattle at £1. 10*s*. each,	£1500
Expense attending the formation of a cattle-station, purchase of stock-horses, &c. .	200
Money in the bank to meet the cost of rations, wages, &c. until some return is obtained from the sale of stock, or from their conversion into tallow, &c.	200
	£1900

In the following calculation the heifers are supposed to commence calving at three years old; they will in general begin calving much younger, unless a separate station is kept in an isolated situation, expressly for the young heifers. A portion of the

stock also is supposed to be disposed of yearly, as they attain the age of four years; a sufficient number of young cows, being, however, retained each year to allow for the assumed yearly loss from disease, &c. in the original number.

First Year.

350	—	12	=	338 Cows.
200	—	6	=	194 Four-year old bullocks and cows.
200	—	6	=	194 Three ditto ditto
230	—	8	=	222 Two-year old steers and heifers.
270	—	9	=	261 Yearling calves.

Retaining 12 young cows to replace the supposed loss from disease among the original 350 cows, we shall have to dispose of, at the expiration of the first year, 194 — 12 = 182 four-year old beasts, which at £2. each, will be worth £364.

Second Year.

350	—	12	=	338 Cows.
194	—	6	=	188 Four-year old bullocks and cows.
222	—	7	=	215 Three ditto ditto
261	—	9	=	252 Two-year old steers and heifers.
268	—	9	=	259 Yearling calves.

Retaining 12 cows as before, we shall have to dispose of at the expiration of the second year, 188 — 12 = 176 four-year old beasts, which at £2. each, will be worth £352.

Third Year.

350	—	12	=	338 Cows.
215	—	7	=	208 Four-year old.
252	—	8	=	244 Three-year old.
259	—	9	=	250 Two ditto
274	—	9	=	265 Yearling calves.

At the expiration of the third year, there will be, 208 — 12 = 196 four-year old beasts, to dispose of, which will be worth £392.

Fourth Year.

350	— 12	=	338 Cows.
244	— 8	=	236 Four-year old.
250	— 8	=	242 Three ditto
265	— 9	=	256 Two ditto
283	— 9	=	274 Yearling calves.

At the expiration of the fourth year there will be 236 — 12 = 224 four-year old stock to dispose of, which at £2. per head, will be worth £448.

Fifth Year.

350	— 12	=	338 Cows.
242	— 8	=	234 Four-year old.
256	— 9	=	247 Three ditto
274	— 9	=	265 Two ditto
283	— 10	=	273 Yearling calves.

At the end of the fifth year, there will be 234 — 12 = 222 four-year old stock to dispose of, which will be worth £444.

Sixth Year.

350	— 12	=	338 Cows.
247	— 8	=	239 Four-year old.
265	— 9	=	256 Three ditto
273	— 9	=	264 Two ditto
284	— 10	=	274 Yearling calves.

At the expiration of the sixth year we shall have to dispose of, 239 — 12 = 227 four-year old stock, which at £2. each, will be worth £454.

Seventh Year.

350	— 12	=	338 Cows.
256	— 8	=	248 Four-year old
264	— 9	=	255 Three ditto
274	— 9	=	265 Two ditto
287	— 10	=	277 Yearling calves.

At the end of the seventh year we can dispose of 248 — 12 = 236 four-year old stock, which will be worth £472.

Eighth Year.

350	— 12	=	338 Cows
255	— 8	=	247 Four-year old.
265	— 9	=	256 Three ditto
277	— 9	=	268 Two ditto
286	— 10	=	276 Yearling calves.

At the end of the eighth year we can dispose of 247 — 12 = 235 four-year old beasts, which will be worth £470.

Ninth Year.

350	— 12	=	338 Cows.
256	— 8	=	248 Four-year old.
268	— 9	=	259 Three ditto
276	— 9	=	267 Two ditto
287	— 10	=	277 Yearling calves.

At the expiration of the ninth year we shall have 248 — 12 = 236 four-year old beasts to dispose of, which will be worth £472.

Tenth Year.

350	— 12	=	338 Cows.
259	— 8	=	251 Four-year old.
267	— 9	=	258 Three ditto
277	— 9	=	268 Two ditto
287	— 10	=	277 Yearling calves.

At theexpiration of the tenth year we shall have 251 — 12 = 239 four-year old beasts to dispose of, which at £2. each will realize £478.

We will now see what has been the total sum realized by the sale or boiling down of the surplus cattle during these ten years.

1st Year . . .	£364
2nd	352
3rd	392
4th	448
5th	444
6th	454
7th	472
8th	470
9th	472
10th	478
10)	4346 Total sum.
	434 Yearly average.

Should the station where these horned cattle are supposed to run, be in the vicinity of a navigable river, the whole expenses of the establishment would be more than covered by making cheese, even at the present low price of dairy produce in Sydney. In that case the yearly profit on the sum of £1900. which has been invested, would, according to my calculation, be nearly twenty-three per cent. Supposing, however, that the stock-owner is willing to make a smaller profit on his money, rather than be troubled with the superintendence of a dairy, we will examine what would be the annual expense

attending the management of a herd of cattle of the foregoing number.

Two stockmen at £16. a year	£32.	
One bullock-driver, able to plough when required,	16.	
One house servant . .	14.	
1¼ tons of flour . . .	18.	Allowance being made for transport.
500 lbs. of sugar . .	5.	Ditto.
60 lbs. of tea . . .	4.	Ditto.
Squatting license & assessment	20.	
Horseshoeing, &c. . .	3.	
	£112.	

Deducting this from the average yearly income derived from the sale or slaughter of surplus stock, there would remain a sum equal to 17 per cent. on the capital invested. The reader will also observe, that, according to my calculation, a considerable augmentation gradually takes place in the number of the original herd, notwithstanding that the cattle, both male and female, are supposed to be sold, or converted into tallow, &c. as soon as they attain four years of age.

Should this work meet the eye of persons of colonial experience, they will probably smile at my extraordinary manner of disposing of the surplus stock, in the foregoing calculations respecting sheep and cattle. My object, however, has not been to recommend this mode of disposing of the increase, but I assumed it solely, because it struck me as the most simple means of shewing the income which

might be derived from sheep and cattle henceforward.* Besides, my short visit to England will not allow me sufficient time to enter into more elaborate details on these subjects.

Agriculture is the next branch of rural industry in New South Wales, for our consideration. This is more uncertain than any other colonial occupation, as the market is so continually glutted with imported grain, that it is often impossible to effect sales unless at a ruinous loss. At present, as the majority of the inhabitants of New South Wales are engaged in tending cattle and sheep, in the cultivation of vineyards, and in manufacturing establishments, that colony does not produce enough grain for its own consumption, although it is capable of affording enough, for fifty times its present population, if the fertile regions in the extreme northern and southern parts of the colony were brought under cultivation, the former for maize and rice, and the latter for wheat. The other Australian colonies, Van Diemen's Land, and South Australia,

* If horned cattle were purchased in New South Wales at a price determined by the mere value of their hides and tallow in the English markets, the stockholder would of course no longer suffer from those vicissitudes in the value of cattle, and the impossibility of making sales for his surplus stock, which have latterly rendered the profits attending colonial grazing pursuits so very precarious. For in that case if there should be no demand for live bullocks in Sydney, the stockholder would always be able to realize a sufficiently remunerative sum by slaughtering them for their hides and tallow.

are now wheat exporting countries, and at present suffering under the greatest depression from the difficulty of finding markets for it. Indeed, from the immense distance of Australia from the mother country and other markets, I consider that the cultivation of the land for the production of grain, with a view to its exportation, presents very dismal prospects for the future, and I fully expect to find, in the course of a year or two, that much good land, now cultivated in Van Diemen's Land and South Australia, must revert to a state of nature. Nevertheless, Australia is much more adapted for the production of wheat, than has been generally supposed. The beautiful and fertile districts in the southern limits of New South Wales, near the Australian Alps, Van Diemen's Land, and South Australia, yield wheat not inferior to that of any country in the world.

Several shipments of wheat, which have arrived in England from these latter colonies, were much praised, and sold at a price considerably above the average price of the wheat of the United Kingdom. The following extract from the speech of Mr. Hutt, M.P., (on March 26th, 1844), contains many interesting statements respecting the wheat of the Australasian colonies, and the expenses attending its shipment to England.

"It appeared by the papers on the table, that a considerable quantity of corn, the produce of Van Diemen's Land, was imported into the neigh-

bouring colonies, the islands in the Eastern seas, and the Mauritius; and that, notwithstanding the distance of 15,000 miles of ocean, and all the difficulties and disadvantages of our sliding-scale, nearly 1300 quarters of wheat were imported from that colony last year into the English markets. It was no doubt a small quantity when compared with the consumption of our population; but when it was considered that it was the first experiment to bring wheat from Van Diemen's Land, that it had succeeded in a remarkable manner, that the corn was of a very superior quality, was brought to Mark Lane in remarkably good condition, and that after paying all expenses, and a duty of five shillings a quarter, it left a handsome profit to the importer, few could doubt that the experiment would soon be tried again, and on an enlarged scale, especially when they considered what a desperate struggle there was now going on for the employment of money, and that merchants found no task so difficult as the discovery of a new article of importation which would be attended with profit. The corn imported last year was of a very superior quality. He never saw any corn that could be compared to it in weight, thinness of skin, and general appearance. An honourable friend near him, who had caused a large quantity of it to be ground for his domestic purposes, declared that the bread was superior to anything he had ever tasted. Though the average price of English wheat was at the time

below 56*s.* a quarter, *the whole of the South Australian and Van Diemen's Land wheat was sold at from* 60*s to* 72*s a quarter.* This was another circumstance which weighed with the merchants, for it was now found that such was the purity and dryness of the Australian climate, that the whole of the wheat, after passing that vast expanse of ocean, was found to have suffered nothing from either moisture or heat, and arrived in a condition scarcely less suited to the purposes for which it was intended, than when it was originally placed on board ship. In order to prove the correctness of these statements he would read an extract from a letter from Messrs. Putnam and Sons (so we understood) of Mark Lane. The Honourable Member then read a letter, in which it was stated that the prime cost of the South Australian wheat was

Per quarter .	38*s.*
Freight . .	10
Other charges .	5
Duty . . .	5
	58*s.* a quarter

in the London market, and that 384 quarters of it were sold at from 60*s.* to 65*s.* per quarter, and 380 quarters at 62*s.* to 70*s.* The sales were in October 1843. The freight of 10*s.* a quarter was much less than could be a remunerating return to the shipowner; but in consequence of the alteration which the Government had made, the year before last, in

the dnties of all articles which entered into the composition and equipment of a ship, there could be no doubt that the rate of freight must soon fall below what it had been heretofore, and that it can never recover its former standard. This he considered a circumstance of considerable importance with reference to the trade of those colonies. The Honourable Member then read a letter fr om Mr. Charles James Steevens, (as we understood,) of Mark Lane, in which it was stated that the quality of the South Australian wheat was equal to that of the best Essex or Kentish wheat, and that from its peculiar character, owing to the heat of the climate, it was so dried as to sustain a long voyage without injury, and that the writer's opinions were founded on personal knowledge, having sold several shipments of it. The Honourable Member then read another paper, signed, as he said, by some of the most respectable merchants in the City of London, in which the same testimony was given as to the quality of the wheat and its capability to resist the injurious action of a long voyage; and it was stated that the price it fetched would be amply remunerating but for the duty, and it was prayed that the duty should be reduced to one shilling per quarter."

Although the idea of exporting wheat from Australia to England, seems to me quite preposterous, yet when I consider the present low value of rich

agricultural farms in New South Wales, (which were frequently sold, when I left the colony at less than one-tenth of the money that had been expended in their improvement alone,) situated on the banks or immediate vicinity of navigable rivers, and the present reduced rate of wages throughout that colony, I think I shall be able to shew, that the purchasers of farms thus advantageously situated, and which have been, moreover, selected in districts unvisited by long droughts, would be able to make a profit on their capital, even if the prices of wheat and maize should become as low as 3*s.* 4*d.* per bushel, or 26*s.* per quarter for wheat, and 1*s.* 9*d.* per bushel, or 14*s.* per quarter for maize ; *prices*, it should be observed, which are lower than wheat and maize have yet fallen to, notwithstanding the long continued depressed state of the colony, and which are not more than *half* the average annual quotations of these kinds of grain during my residence in the colony.

Before attempting to prove this assertion, I will try to ascertain whether, at these low prices, it would be advantageous for merchants to purchase grain in Sydney for shipment to England ? The *maximum duty* that can be charged on colonial grain, according to the "sliding scale," is five shillings a quarter on wheat, and two shillings and sixpence a quarter on maize. As for other expenses I will assume those stated by Mr. Hutt.

Assumed price of wheat in Sydney	26*s.* per quarter.
Freight	10*s.*
Other charges	5*s.*
Duty	5*s.*
	46*s.*

The average price of wheat in England has been for some time about 56*s.* and it is very unlikely to fall much below this standard: if wheat therefore could be purchased in the Australian ports for 26*s.* per quarter, it might be exported with great advantage to the United Kingdom; especially as the Australian wheat has been now proved, (according to Mr. Hutt's statements in parliament), to suffer no deterioration from the voyage, an advantage not possessed by the wheat of America.

Assumed price of maize in Sydney	14*s.* per quarter.
Freight	10*s.*
Other charges	5*s.*
Duty	2*s.* 6*d.*
	31*s.* 6*d.*

Maize has never been imported by Great Britain in any quantity worth noticing, so that I am quite unable to say what price it would realize. As an occasional cheap and nutritive article of food for the working classes in England, maize meal would be found very much superior to oatmeal and barley-meal. In some parts of Southern Europe, and

in the United States, maize meal is extensively used by all classes; and in Mexico it forms the main food of the inhabitants, although the crops of this kind of corn are very uncertain in that country. Many of my readers will remember Cobbett's oft-repeated eulogies of this kind of grain. Dr. Lang, the present member of Port Philip in the Legislative Assembly, and whose long residence in New South Wales, and knowledge of its resources, render his remarks on colonial subjects worthy of great attention, writes as follows concerning maize.

"The maize of New South Wales, has been acknowledged by gentlemen well acquainted with the cultivation of that species of grain in the United States, *superior to any they had seen elsewhere.* It forms the favourite food of horses, and is used for the fattening of pigs and poultry; but it seldom constitutes an article of food for any class of free persons in the colony. Extravagance, indeed, has ever been one of the besetting sins of the Australian colonies, and the lowest class of free people in New South Wales are content only with the finest of the wheat; in so much that coarse bread can scarcely be procured in Sydney, except when previously ordered, or from those bakers that supply the troops and the other government establishments with bread of that quality by tender. I have seen various preparations of this grain, however, which I am sure would be relished as an article of food by thousands and tens of thousands of the labouring classes in the

mother country. The meal into which it is ground is sometimes made into a sort of *porridge* or pudding called *hominy*, somewhat similar both in taste and appearance to the preparation of oatmeal so general as an article of food among the lower classes in Scotland. With an equal quantity of wheaten flour, it also makes excellent household bread, the maize meal being in the first instance reduced to the state of *hominy*. Indeed, maize might in all probability form a profitable article of export to the mother country, especially as it can generally be obtained at Hunter's river, of the very best quality, at from 1*s.* 3*d.* to 2*s.* 6*d.* a bushel, a price which would enable the merchants to sell it at a rate that would render it a cheap as well as wholesome article of food for the labouring classes in England. This valuable grain is much used as an article of food among the peasants of New England, who prepare it in a great variety of ways."

Now that the land-mania has subsided, and a contrary reaction has taken place, the most fertile tracts of ground, whether improved, or in a state of nature, are quite unsaleable at any price, and many beautiful, well-cultivated farms have been sold by execution at frightful sacrifices. Even when prosperity shall revisit the colony, I do not think that rural lands will ever attain a higher value than that determined by the actual profit, or income that can be derived from them yearly, all fancied value from proximity to *village reserves*, &c. will never

more be entertained by persons of sense; and if agriculture does not yield any profit to those who embark in that pursuit, alluvial land would then indeed be totally valueless. When Dr. Lang wrote his valuable Historical and Statistical Account of New South Wales in 1834, it appears that wheat was quoted at 3*s.* a bushel and maize proportionally low. Now, during all the long continued commercial depression, and monetary confusion, under which the colony still suffers, and the consequent low prices obtained for all kinds of produce, the *cash prices* of wheat have never been so low as this. Nevertheless, that author particularly alludes to the advantages attending agricultural pursuits in New South Wales, when those who engage in them are small capitalists, especially that industrious class of working farmers with large families, whose position at home in England is so miserably dependent and precarious.

If these advantages existed then, do they no longer continue to do so? Good rich land, on navigable waters, whether improved and cultivated, or yet in a state of nature, can be purchased at the present time for probably one-fourth of the price it was worth when Dr. Lang wrote. Labour is more cheap and abundant than it ever was before; supplies of all kinds for the use of a farm, including agricultural implements, are twenty per cent. lower than they formerly were, and working bullocks and horses are much cheaper, the latter especially being

not one-fourth of their former price. Besides, very extensive tracts of country have been discovered since 1834, much more suitable for agriculture than the more central parts of the colony. It would therefore appear, that if agriculture were profitable in 1834, it ought to be more so now.

But I am wandering from the subject I promised to discuss, viz., that a farmer now on the spot, to take advantage of the frightful sacrifice in landed property, with a small capital, partly invested in a cleared farm of rich soil, consisting of a portion of alluvial land, and a portion of moist forest land, situated in a district unvisited by serious droughts, and with water carriage to Sydney, would realize a tolerable profit on his money, even supposing that the price of wheat and maize in the Sydney market should fall to as low a rate as 26 shillings a quarter for wheat, and 14 shillings a quarter for maize.

Notwithstanding the prevalent notion that the periodical droughts of Australia will always render agricultural operations uncertain in that part of the world, there are even in the old settled parts of New South Wales, many districts which, from their physical conformation,* never suffer much from those visitations; among these favoured localities, I may enumerate, Illawarra, the Williams and Paterson rivers, the Manning river, and Port Macquarie.

* Those districts near the coast, which are pent in by *high mountain ranges*, are refreshed by frequent rains, whilst the level country in the interior is quite desiccated and burnt up.

Numerous farms at any of these places can be readily purchased, with all the qualifications I have stipulated for.

I will therefore suppose that the small farmer purchases a farm of one hundred acres of rich land, such as I have described in the beginning of this work. A farm such as this, situated on a navigable river or creek, well fenced in, and with all necessary buildings in good repair, would not cost more than four hundred pounds, when I left the colony, although to bring it into its present improved state, from a state of nature, four times that amount had probably been expended:—

Farm	£400
Farming implements, bullock gear, a dray, household furniture, &c. . . . . :	160
Eight good working bullocks, well broke into the plough	30
A few pigs and poultry, and two or three cows .	10
	£600

Six hundred pounds are therefore invested before commencing operations. We must now consider the current annual expenditure for rations, wages, seed, &c. By contrasting afterwards this current annual expenditure with the assumed value of the farm produce in Sydney, diminished by the expenses of freight, we shall obtain the profit or loss attendant on the undertaking.

To cultivate one hundred acres properly, and perform all the work of a farm of that size would require four men, with the occasional assistance of

the farmer and his family during harvest time, &c. Another person would also be required as cook and house-servant. The ordinary rations for each labourer weekly, are ten pounds of flour, ten pounds of meat, two pounds of sugar, and one quarter of a pound of tea. Soap and tobacco are not given to free labourers.

Supposing that the farmer and his family consume four of these rations, there would be nine rations in all.* In the following estimate I have taken the Sydney prices of the supplies required for rations, and made thereunto a small addition, equivalent to the expense of freight and carriage to a farm, situated as I have supposed.

2¼ tons of flour	£ 29
2¼ do. beef	20
½ ton of sugar	8
120 lbs. of tea	7
Tobacco, soap, and salt	4
Four ploughmen, at £18	72
One house-servant	14
Wear and tear of implements, &c.	16
Seeds	30
	£ 200

We must now see what will be the yearly average produce which might be expected from the hundred acres, under consideration. We will

* The farmer's family would, also, of course be abundantly supplied with poultry, eggs, milk, cream, vegetables, &c. from the farm at no expense.

suppose that the farmer has every year fifty acres of it in wheat, and fifty acres in maize, with a secondary crop on part of the ground after the maize is harvested, of swede turnips, sugar-loaf cabbages, &c. which might be sold to the cow-keepers in Sydney. Much diversity of opinion prevails with regard to the average crops of wheat, (allowing for failures), throughout the whole colony of New South Wales. It has been stated to be as low as sixteen bushels per acre, throughout the whole territory for a long period of years, but in this estimate the greater portion of the crops were rudely grown at cattle and sheep stations, for the mere supply of the shepherds and stockmen, and not the slightest attention was paid to the growing wheat, from the time that it was unskilfully sown on indifferent ground, rather scratched than ploughed, until it was reaped. In those districts, where the cultivation of the ground, and the production of grain for the Sydney market, form the principal occupation of the settler, I should consider the average crop of wheat one year with another, and allowing for losses, to be, at least, at the rate of twenty-one bushels to the acre; and indeed my own experience in colonial agriculture would induce me to suppose it higher even than this. I have heard of fifty bushels per acre of wheat being harvested on cleared forest land, and Mr. Wentworth says, that he has known one hundred bushels of

maize to the acre, and fifty bushels of wheat to the acre, produced by the same ground in the same year, the maize having been planted immediately the wheat was off the ground. In the fertile southern parts of the territory of New South Wales, wheat, equal in quality to that of Van Diemen's Land, yields crops of forty bushels to the acre. I shall not be therefore going too high, in assuming twenty-one bushels per acre, as the average crop of wheat on good ground.*

Maize is a never-failing crop in the districts I have supposed the farm to be selected in. One hundred bushels to the acre, appears to be about the maximum crop; this has often been harvested at the Wilson river, near Port Macquarie. At our station on the MacLeay river, we never had more than seventy-five bushels to the acre, and our ordinary crop was fifty bushels; pumpkins being grown between the rows, which of course diminished the crop of maize. Dr. Lang considers eighty bushels to the acre a good crop. I shall therefore assume fifty bushels to the acre as an average crop of maize. As to the less important crop of swede turnips, cabbages, &c. they grow with greater rapidity, certainty and abundance, than on the best English soils, when planted on the alluvial flooded lands of New South Wales.

* Dr. Lang says, that the average of the colony, is not higher than twenty to twenty-five bushels; but he observes that the system of husbandry prevalent in certain parts of the territory is wretched in the extreme.

Fifty acres of wheat at the rate of 21 bushels to the acre, will yield 1050 bushels. The expense of sending the wheat to Sydney, I will assume to be ninepence per bushel, which must be deducted from the price I have taken, viz. 3*s.* 4*d.* per bushel, leaving 2*s.* 7*d.* 1050 bushels at this price will be	135	12	6
Fifty acres in maize, at the rate of 50 bushels to the acre, will yield 2500 bushels. The expense of sending maize to Sydney, I will suppose to be ninepence per bushel, which must be deducted from the price I have assumed, viz. 1*s.* 9*d.* per bushel, leaving 1*s.* per bushel. 2500 bushels, at one shilling will be . . .	125	0	0
Swede turnips, cabbages, potatoes, &c. . .	40	0	0
	£300	12	6
Deduct annual expenses .	200	0	0
	£100	12	6

The capital invested in the farm, agricultural implements, furniture, &c. having been £600. and the expenses of wages, &c. having been £200. the farmer would require a capital of £800. for a farm such as I have described. According to my calculation he would only realize thirteen per cent. on his £800.; but as I have included among the yearly expenses, the wages and rations for a house-servant, and supplies sufficient for a large family, something more ought to be added to obtain the real gain.

I therefore think that under all circumstances, an emigrant who selects a farm with the qualifications I have stipulated for, cannot fail of doing well, since even if wheat should fall as low as 3*s.* 4*d.* per

bushel, (at which rate it could be, according to Mr. Hutt, advantageously exported to England), and maize at 1*s.* 9*d.* he would still realize thirteen per cent. according to my calculation.

I do not, however, wish it to be supposed, from the preceding observations, that wheat might be produced, *in New South Wales generally*, at prices so low as this. In districts subject to drought the crops would often be injured in consequence, and if land carriage had to be resorted to in order to convey farm produce to Sydney, it would evidently be impossible to grow wheat at such a low price. *In fact, as I have said before, to produce grain profitably at such low prices, the land must be of the best quality, situated in a district unvisited by drought, and in the vicinity of navigable waters, and purchased for one-fourth of the money originally expended on it.*

At present, however, the colonists of New South Wales are so far from entertaining the idea of exporting wheat, that those who are engaged exclusively in agriculture are very urgent in their endeavours to obtain an Act imposing duties on wheat imported into the colony. The advocates of the present free trade in wheat oppose this, by arguing that Australia is not adapted for the production of wheat, on account of the extreme aridity of its soil; and that it would be contrary to all true principles of political economy to encourage, by protective duties, the production of corn in a country so unsuitable for its growth when such cheap wheat can be obtained from Chili.

Without giving any opinion of my own, as to whether it would be good or bad policy for the Legislature to impose a protective duty on wheat imported into New South Wales, I certainly think that the capabilities of that colony, as an agricultural country, have been very much underrated both in the colony itself, and in England; as to Chili, I have heard or read from good authorities, that it is a barren country, subject to great droughts; but then the Chilian agriculturists, although they use the most primitive implements of husbandry of the rudest construction, yet possess one great advantage over the English colonists of Australia,—*they know how to irrigate their lands.** As to the comparative quality of Australian wheat, and Chilian wheat, imported from Valparaiso, their respective quotations in the Sydney Morning Herald, when I left the colony in the beginning of last August, were as follow:—

Colonial wheat	.	4*s.* 6*d.* per bushel.
Valparaiso wheat	.	3*s.* 6*d.* do.

Agriculturists in New South Wales will therefore possess for a long time one great advantage over those of Van Diemen's Land and South Australia; for these colonies now produce more wheat than they can consume, and have become wheat-exporting countries. But owing to the large population of Sydney, and the circumstance that the majority of

* Hints for Australian Emigrants, with Engravings and explanatory Descriptions of the Water-raising Wheels, and Modes of Irrigating Land in Egypt, Syria, South America, &c. By Peter Cunningham, R.N. Author of "Two Years in New South Wales."

the inhabitants in the rural districts of New South Wales are engaged in tending sheep, cattle, and vineyards, it will be long before the comparatively small number of agriculturists in that colony grow more wheat than is equal to the consumption; although the great advance which has been made during the last eight years in our knowledge of the more distant parts of the territory of New South Wales has established the fact, that we possess in that colony, millions of acres of rich land, situated in districts unvisited by the droughts so prevalent in New Holland, watered by numerous rivers, with good harbours, and capable of producing enough grain for a population fifty times greater than the present one. Among the finest wheat districts in the territory of New South Wales are the fertile plains, of vast extent, which are situated among the ramifications of the Australian Alps, or Warragong mountains, which attain an altitude of 7000 feet above the level of the sea, and are capped by eternal snow. The squatters, who have formed stations on these plains, speak highly of the wheat they grow for the use of their establishments; wheat having always been with them a certain and abundant crop. Gipps Land, between these mountains and the sea, is also a most fertile region, possessing a vast level tract of the richest soil in one large block. In the settled parts of New South Wales, the extensive plains, in the fertile county of Argyle, have long yielded crops of wheat quite equal to Van

Diemen's Land wheat; fifty bushels to the acre being of frequent occurrence. At present, however, only enough wheat is grown in this fine district to supply its thinly scattered population, for the land carriage to Sydney would be so long, that it would be impossible to grow it for that distant market. Port Philip is also a very good wheat country. The exuberant richness of the district of Illawarra is well known; shut in by an abrupt, densely wooded range of mountains it has never suffered from those severe droughts which have often visited the counties of Camden and Cumberland.* The northern part of the territory of New South Wales, already described in the first part of this work, is not certainly so well adapted for wheat as the southern parts of the colony, but then it yields large and certain crops of maize, millet, &c. besides which its climate and soil are well suited for the growth of rice and various productions of the tropics.

Experience has proved in Australia, that the only districts in which one may be assured of exemption from drought, are those where the chains of mountains attain a very great elevation, and throw off numerous lofty ranges extending to the sea coast; their formation, also, being of a nature favourable to

* During the years of drought many small agriculturists actually abandoned the land they had cleared and cultivated, and of which they possessed the freehold in other districts, to cultivate a few acres of land on lease in the district of Illawarra.—Dr. Lang.

fertility and moisture. Thus, in the country at the foot of the Australian Alps, which are seven thousand feet high, and the Port Macquarie district, in which the mountains are often upwards of six thousand feet in elevation, no injury or serious inconvenience has ever been sustained from long droughts.

It has been lately averred that South Australia is superior, as an agricultural country, to any other of the Australian colonies. I am, however, afraid that South Australia will be found to be subject to severe droughts and scarcity of water, notwithstanding that it has now had several successive rainy seasons.

There are no mountains in that province, (for the ranges extending along the eastern shores of St. Vincent's and Spencer's gulfs, do not deserve that name), and there are no streams deserving the names of rivers; even the Murray river receives no tributaries of importance after entering the southern colony. The natural advantages of South Australia appear to me to be very inferior to those of New South Wales; for the former colony, as I have just observed, possesses no rivers of importance, with the exception of the lower Murray, and the land, beyond the mere banks of this large river, is an unavailable arid desert. There is, consequently, a great deficiency of rich alluvial land in South Australia; and although its plains of light chocolate-coloured loam, or black sandy earth, may yield, at present, good crops of wheat, they will soon require

to be renovated by manure, and are quite different from those inexhaustible alluvial soils on the banks of some of the coast rivers of New South Wales. I should very much doubt whether there be land in South Australia capable of yielding two crops of grain in the same year without manure, and at the rate of fifty bushels of wheat, and one hundred bushels of maize to each acre, which, Mr. Wentworth says, have been harvested at the Hawkesbury river.* The near approach of the sandy wastes of the interior to the coast, will also never allow that almost unlimited extension of sheep and cattle stations in that colony, which has taken place in New South Wales. I have penned these remarks in fear and trembling, as I am aware that South Australia is much more favourably thought of in England than the other Australian colonies.

The colonists of that province are certainly much more industrious than those of New South Wales. They have been indefatigable in examining into all the natural advantages of their adopted country, and have been laudably anxious in their endeavours to make these advantages generally known in Eng-

* The slovenly mode of cultivating the soil at this river, to ensure two crops a year off the same ground, is another proof of its richness, for after the wheat is off the ground, the maize is planted in the stubble without breaking up the land. The Hawkesbury river is not, however, a good agricultural district, as it is subject to great drought and violent floods; the wheat produced on its banks is also of very inferior quality.

land, that those numerous classes, now receiving scarcely any return from their small properties in the mother country, might be induced to better their condition by emigrating to that thoroughly British colony. In this respect, they present a great contrast to the supineness and want of union among the colonists of New South Wales. Should the South Australian settlers find that they can continue to grow wheat at a rate low enough to allow of its being profitably exported, I have no doubt that they will become a thriving community; especially if they adopt means of irrigating their lands during seasons of drought, which, I am afraid, will visit South Australia periodically, in common with the other *level* parts of New Holland.

I will now make a few observations on *vineyards*. All persons of intelligence in New South Wales, who have acquired some knowledge of the resources of that colony, entertain the same opinion of its peculiar adaptation to become a great wine country; whilst no other branch of rural industry can be at all compared for the profits eventually attending it. It is only within the last ten years that vineyards of any extent have been planted in New South Wales; and those only by a few of the more wealthy colonists, as English emigrants have hitherto invested their capital, almost exclusively, in flocks and herds; being deterred from planting vineyards by their ignorance of the culture of the vine, the great care and attention required in the fabrication of

superior wines, and the length of time before they would begin to obtain a return for their outlay.

Although wine is made in the fourth year from the plantation of the vine cuttings, yet it is not until vines attain a more mature age,—fifteen years old, for instance, that they begin to furnish *the best wine* they are capable of affording.

Now, although it might naturally have been expected, from the immature state of the young vineyards hitherto planted in New South Wales, and our comparative inexperience as to what kind of grapes are best suited in that country for making first rate wines, that the Australian wine, hitherto made, would have proved of an inferior description, yet the contrary result has taken place; for the generality of the wine of New South Wales, notwithstanding its newness, is of most excellent quality. I have drank some very good wine, the produce of the vineyards of the Messrs. Macarthur, &c.; and better judges of the comparative merits of wine than myself, have pronounced it worthy of bearing comparison with the finer products of the French and Rhenish vineyards. A foreign friend of mine, who returned with me lately from Sydney, and who has been all his life connected with the wine-growing districts of the Rhine, praises, in the highest terms, the colonial wine, and he has brought with him to Europe, several samples of it for exposition to the vine-growers of his native country, to prove to them the advantage which would attend their emigration

to the British colony of New South Wales. He informed me that there would be little trouble in engaging any number of the vinedressers of the Rhine to emigrate to New South Wales; I mention this in passing, as I am sure that few speculations would be attended with such safe and certain profit as the plantation of extensive vineyards in that colony, to be cultivated by French or German vinedressers. Persons of large capital, or a joint stock company, might undertake this with great advantage.

The generality of the Australian wine hitherto made, approximates to the wines of Burgundy, and the other more full-bodied wines of the south of France; though the product of the vineyards on the light sandy soils near Sydney, are more similar to the wines of Grève, Medoc, St. Emilien, and other lighter vines produced in the departement de la Gironde.

The following copy of an advertisement, in the Sydney Morning Herald, will shew the varieties of grapes successfully cultivated in New South Wales, and the price of vine cuttings:—

VINE CUTTINGS.

Persons who are desirous to be supplied with Vine Cuttings of the best varieties for wine, and for the table, are informed that they may be obtained from the Camden Vineyard, at the following prices:

Gousirs (La Folle) from Cognac Verdeilho " Madeira	}	15s. per 1000.

Carbenet Sauvignon,	from	Bordeaux	
Malbec	"	ditto	
Pineau Gris	"	Burgundy	30s. per 1000.
—— blanc		and	
Meslier blanc		Champagne	
Aucarôt			
Scyras	"	Hermitage	
Riesling	"	Rhine	
Raisin vert	"	ditto	
Sauvignon cendré			
Muscat Noir			
—— blanc			
—— rouge			
—— gris			

And a variety of other excellent sorts, at 5s. per hundred.

Rooted plants of the greater part of the foregoing may be had at the additional charge of 2s. per hundred.

The cuttings will be formed out of the proper description of wood, eighteen inches in length, and neatly packed in bundles of two hundred in each. Early application, in writing, addressed to the Overseer, at Camden, is requested, as a limited number only of some of the best sorts can be furnished.

Parties desirous of having cuttings delivered in Sydney, can have them forwarded at the additional charge of one shilling per bundle of two hundred.

N.B.—A large collection of choice fruit-trees, and a great variety of useful and ornamental trees, shrubs, and flowering plants, may be had, upon application to the Gardener, at Camden.

I am, unfortunately, unprovided with any authentic information respecting the annual expense hitherto attendant on the cultivation of the vine in New South Wales, and the average quantity of wine that has been obtained from any given extent

of ground. An eminent French authority has given a statistical account of the average quantity of wine furnished by various vineyards throughout France, and the expenses attendant on its production. I have taken from his account those two vineyards which are most widely different in the comparative quantity of wine yielded by them, viz. Grève, and St. Emilien :—

St. Emilien	28	barriques	par arpent
Grève	6	ditto	ditto.

The comparative expenses attending the production of the wine—was,

St. Emilien	150	francs	par arpent
Grève	125	ditto	ditto.

Which would be at the rate of £5. 5s. for St. Emilien, and £4. 10s. for Grève to the English acre.

It is, however, worthy of remark, that the smaller the quantity of wine that is obtained from a vineyard, the better will be the wine, and *vice versâ ;* thus the choicer vineyards of France yield a much smaller quantity of wine than the ordinary ones ; the best Medoc wines, for instance, only averaging six barriques to each arpent of ground, whilst some inferior vineyards yield thirty barriques to the arpent. Mr. Busby states that the vintage throughout France yields, one year with another, two hundred and forty-seven gallons to the acre. This quantity is, however, very much below that yielded in those central and western districts of France,

where I resided for some time, and I am inclined to think that this estimate must include those extensive tracts of country in the southern parts of that kingdom, where the vines are planted at very wide intervals apart, and the intermediate spaces between the rows cultivated for wheat, barley, buck-wheat, sainfoin, &c.

The greater portion of the French vineyards are planted on poor soils, which would be unfit for any other purpose; and notwithstanding the superior delicacy and value of the wines of France beyond those of any other country, the climate of that kingdom is not, by any means, so well adapted for the vine as that of warmer countries, for besides the loss and damage incurred by frosts, the frequent hailstorms, which are peculiarly prevalent in France, do a great deal of mischief.

The Spanish vineyards round Xeres appear to yield from three to eight hundred gallons to the acre, the average quantity in the larger vineyards being about six hundred gallons for the acre.

In the excellent little treatise on the cultivation of the vine by Mr. Busby, which was published some years ago in Sydney, that gentleman observes, that Mr. William Macarthur made from an acre of vines, only five years old, two hundred and fifty gallons of wine, although a great portion of the grapes was unfortunately destroyed by a hailstorm; and he expected to make double that quantity the next year, and all other years, when unvisited by

such accidents, which are fortunately of very rare occurrence in New South Wales. I do not think, therefore, that I should be assuming too great a quantity in taking four hundred gallons of wine as the average for an acre of vines planted in that colony, on an appropriate site and suitable soil. The expenses attendant on the cultivation of the grape and production of wine, are, as I have before stated, £5. 5*s*. for St. Emilien, and £4. 10*s*. for Grève, for each English acre. Near Xeres, in Spain, the expense is about £12. for the acre. In large vineyards, in France, two men are required to cultivate every ten acres of vines.* Assuming that in New South Wales, three men are requisite to do the same amount of labour as three Frenchmen, and that the wages of these men are £20. a year for two of them, and £36. a year for the third, (who, we will suppose, has some previously acquired knowledge of the culture of the vine), and that their rations cost £8. each, the expense of cultivating ten acres of vines in that colony would be £100., or £10. for every acre. The wages of extra hands during the vintage, cost of casks, &c. may be taken at £6. the acre, making the total annual expense, attending the production of colonial wine, £16. an acre, according to my estimate.

I will now endeavour to ascertain what would be the probable amount of capital required to establish

* Mr. Busby says, that in France it is reckoned, that after a vineyard is once planted, one man will be able to cultivate about four acres and a half, not counting the labours of the vintage.

a vineyard of one hundred acres in New South Wales, and what profit may reasonably be expected to be derived from such an investment.

In purchasing a piece of ground for the plantation of a vineyard, the buyer would of course select a light soil suitable for vines, and consequently easily trenched. The best French authorities recommend that the ground should be trenched to the depth of two feet, and in some parts of Europe the ground has been sometimes trenched to a much greater depth than this. I have, however, occasionally seen light friable soils in New South Wales, preserving an homogeneous character to the subjacent rock, and which seemed sufficiently loose to be adapted for vines without any necessity for trenching; but, in general, this operation is indispensably necessary. I will suppose that the operation of trenching the land to the depth of two feet costs £16. an acre. Land, the trenching of which would cost more than this would be altogether unfit for vines :—

One hundred acres of land suitable for a vineyard .	£ 100
Vine cuttings	200
Buildings and fences	200
Farming implements, &c.	100
Expense of trenching the land at £ 16 the acre .	1600
Expense of first year's cultivation at £ 10 per acre .	1000
" second ditto . . . ditto . .	1000
" third ditto . . . . ditto . .	1000
" fourth ditto . . . ditto . .	1000
" fifth ditto . . . . ditto . .	1000
Expenses attending the vintage during the fifth year	600
	£ 7,800

The total outlay will therefore be £7,800. The interest on this money, during the first years, would be more than amply covered by the small quantity of wine made during the fourth year. Having assumed four hundred gallons of wine to the acre as the average quantity that may be expected from the Australian vineyards, after the fifth year, one hundred acres of vines would yield forty thousand gallons, which, if worth two shillings the gallon, would be of the value of £4000. The expenses attending the cultivation of the vine, and the fabrication of the wine, having been taken by me at £16. per acre, the clear yearly income after the fifth year, would be £2400. So that if the data on which I have based this calculation were correct, a person investing £8000. in vineyards, would be indemnified for the interest on his capital, during the first four years, by the wine of the fourth year, and ever afterwards realize an annual profit of upwards of thirty per cent. on his capital. If I have erred in the foregoing estimate, I rather think it would be in over-rating the expense, for I see that Mr. Busby estimates the expense of preparing the ground, by trenching it three spits deep, planting the vines, and four years' cultivation of them, at £48. the acre.

The wines already made in New South Wales, are, as I have before said, of very good quality, and present a great contrast to the ordinary wines from the Cape; for those of the former colony have in no

instance been impregnated with that disagreeable earthy flavour which is so predominant in the wines of Southern Africa. In fact, there is no other dependency belonging to the British Crown, which is so well adapted to produce superior wines and brandy as Australia, for which articles of consumption, Great Britain is entirely dependent on foreign countries. It will be some years before Australia can produce more wine than her inhabitants can consume. Whenever that time will arrive, India and the mother country, will take all she can supply.

I have observed, in the preceding observations on the MacLeay river, that the geological formation of the country, exercises a most marked influence on the quality of wine produced from vines grown on it. Thus the vineyards Ay and Epernay, which yield the best Champagne wines, have been planted on a poor clayey soil lying on chalk, which is so little below the surface, that it is frequently exposed at one spit deep. The wines of the province of Anjou, although little known in England, are much esteemed in France; the vines which produce them grow on schistose slate, and some of the best vineyards on the Rhine grow also on the same formation. The villages of Côte-Rôtie, l'Hermitage, la Romaneche, Chenard, Banjeu, enjoy the highest reputation for their wines, the basis of the country being granite. Vineyards planted on volcanic soils in France produce wines of very variable quality; thus near the Rhine they are

very good on these soils, whilst in Auvergne they are execrable.

The variety of grape used in making wine has also great influence upon its quality; thus some varieties that yield good wine in a cold country might yield indifferent wine in a warmer country; and *vice versâ*; also some varieties thrive best in one kind of soil, and some in another. In a new country like Australia, it will only be from actual experience, that we can eventually acquire a knowledge of the varieties of wines best suited to its climate and soils, for yielding the best possible wines that can be produced in that colony.

The oldest vines have always been considered in France to yield the best wine; and in some of the best vineyards, at Vongeot near Dijon, Migraine near Auxerre, and Epernay, the vines are at least five hundred years old. It is this consideration that has induced the system of cultivating the vine, generally adopted throughout the provinces of Burgundy and Champagne, which consists in never uprooting the old vines, but in drawing them down to the ground, and covering them with earth every few years. In Italy, also, some of the vines are three hundred years old, but in the south-western part of France, in which I resided some time, I have heard, that the vines are in general replanted about once every forty years. With regard to the distance vines should be planted from each other, no determinate rule can be assigned, for in France not only different

districts, but even adjacent villages, differ essentially in their mode of planting. In some parts of that kingdom, the cuttings are placed in the ground scarcely a yard asunder, and in others immense intervals are left between them, which are made use of for the ordinary objects of culture. In those villages to the south of the Loire, where I have occasionally examined the vineyards, the vines were very generally growing from three to four feet from each other, in rows, about six feet apart. At Xeres, in Spain, the vine cuttings are generally planted five feet every way.*

The best mode of training the vines in New South Wales would be on trellisses, which are preferable to the low props used in some parts of France; for if the vines were kept as low to the ground in the colony, as they are in the northern parts of France, and on the Rhine, the reflected heat of the sun, would perhaps be detrimental to them. Not having interested myself much in vineyards, during my residence in New South Wales, from being constantly engaged in other avocations, I regret that I am unable to furnish any account of the mode of planting, and system of cultivation, adopted in the extensive vineyards of the Messrs. Macarthur, at

* Mr. Busby recommends that on a poor sandy or stoney soil the rows should be four feet from each other, and the plants three feet apart in the rows. But on a good strong loam or alluvial soil, the distance of the rows from each other must be six feet and the plants four feet apart.

their beautiful estate at Camden. In other parts of the colony I have seen small vineyards, where the vines were trained on trellisses, constructed according to the plan recommended by the late Mr. Shepherd, and they looked very well. In Italy vines are often planted at the foot of low-sized forest trees, and allowed to climb up them unrestrained. The trees generally employed for this purpose are elms and sycamores. In some parts of the south of France, in the valleys near the foot of the Alps and Pyrenees, this mode of training the vine is sometimes resorted to; only the French are more careful than the Italians, as they keep the trees well trimmed, and carry the vines in festoons from one tree to another. In New South Wales the lower slopes of fertile ranges are very frequently lightly wooded by the Angophora lanceolata, or colonial apple-tree. As sites near the subsidence of ranges are those which would be best suited for vines in that colony, might not these trees, which are low-sized and gnarled, be available for the same purposes as the elms and sycamores of Italy and France? In France, during the winter, the ground between the vines is generally broken up by the plough, although the hoe or the spade is sometimes used for that purpose. This operation should be performed as soon after the vintage as possible, the branches being first removed so as to offer no impediment. It is not necessary to go deeper than eight or ten inches, and in a dry country like New South Wales,

it might be a good plan to draw the earth in the form of a dos d'ane between the rows of vines. After the first pruning in the beginning of summer, the ground is again lightly worked, and the weeds cleared away from the roots of the vines. The best way of doing this, is to skim the ground between the rows lightly over with the plough, and afterwards hoe the ground round the roots of the vines, where the plough had not reached. When the bunches begin to form, the weeds are again lightly skimmed off the surface, the common scarifier would, in some cases, be very serviceable for this work.

Manure is occasionally used in France for vineyards, as the quantity of wine is invariably increased thereby, but at the same time its quality is much deteriorated. In the more sandy soils of New South Wales, a dressing of stable manure and wood-ashes, applied at the time that the ground is trenched, would materially assist the growth of the cuttings, without being in any way injurious to them; but on the richer soils on the lower slopes of ranges, composed of mountain limestone, clay-slate, or whinstone, no such application would be necessary.

In a country like New South Wales, where wood is so abundant that every tree felled helps to increase the value of the land, wood-ashes would form a cheap and excellent application to vines, which would increase the quantity of the wine without

imparting any disagreeable flavour to it. In some of the best continental vineyards, no manure is however used in any form; but when, after a very long course of years, the ground becomes very much exhausted, a dressing of richer mould, (of the same chemical elements as the original soil of the vineyard if it can be procured,) is applied.

I have frequently alluded, in the previous portion of this work, to the soils best adapted for vines in New South Wales. If the land intended for a vineyard in that colony should be of that description, the vine-cuttings may be planted as soon as the land is trenched, but if there should be a predominance of argile in the soil it would be preferable to allow the ground to lie fallow for one year so as to become mellowed by exposure to the sun, and the chemical action of the atmospheric gases.

Vine-cuttings are generally planted with a dibble, but the holes are sometimes made with a spade in very loose ground, and in France in clayey soils a trench is sometimes opened down each row to place the cuttings in, as the compression of the surrounding particles made by a dibble in a tenacious soil, would have an injurious effect on the growth of the cuttings. As each is placed in the ground, a small quantity of light earth moistened with water should be applied around it, and if wood-ashes be mixed with the earth, the effi-

cacy of this application in causing the cutting to throw out roots, will be much increased.

In writing this hasty work, the object I had in view, was to endeavour to analyse the degree of profit likely to attend, henceforward, the rural occupations of New South Wales, without entering into any details respecting these occupations themselves. I shall not therefore extend my observations on the cultivation of the vine; especially as an excellent practical treatise on its culture, and the art of making wine has been published in the colony some years ago by Mr. Busby, a gentleman to whose disinterested liberality and public spirit the colonists are indebted for some of their best varieties of grape, which he obtained from the nursery of the Luxembourg at Paris, and from the Botanic Garden of Montpellier.

I have heard that Mr. Busby has been very successful in the production of wine at his farm on the banks of the Upper Hunter, and many of the surrounding settlers have been induced to follow his example in planting vineyards on their farms. Indeed all the colonists are now aware of the advantage of investing capital in vineyards; but as it requires a considerable sum of money to form vineyards of any extent, and as the adverse circumstances of the colony have deprived the colonists of all their available funds, it will only be from the renewed emigration of persons with capital

from England, going out expressly to become wine-growers, that New South Wales will ever become the great wine country for which she has been designed by nature.

PART IV.

Australian field-sports—Kangaroo-hunting—Curious mode of shooting the Pademella, or brush-kangaroo—Dingo hunt—Emu chase—Varieties of Quails in New South Wales; very abundant north of Port Macquarie—Varieties of Australian ducks—Duck-shooting—Geese and moor-fowl—Brush-turkeys—Very good for the table—Their extraordinary mode of constructing their nests—Large size of the eggs, which are hatched by the heat generated by vegetable decomposition—Pigeons—The Wonga-wonga—Its habits—Very difficult to shoot—Peculiar delicacy of its flesh—The flock-pigeon of the brushes—Easily shot—Bronze-wing pigeon—Black pigeon—Fruit pigeon—Its brilliant plumage—Doves—Spur-winged Plovers—Snipes—Curlews—Black Swans—Curious method of chasing them in a boat—Pelicans—Quantity of oil contained in them—Divers, Godwits, and Red-bills—Swamp Pheasants, Lyre-birds, Bustards—Snakes of Australia almost all venomous—Description of the different species in the colony—Peculiar action of the poison of the generality of Australian snakes—Account of the symptoms experienced by the author from the bite of a large snake at the MacLeay in 1841—Treatment under which he recovered—Description of a curious salt-water snake of the genus Hydrophis, killed in Tryal Bay in 30 50′ S.—Extreme poison of sea-snakes exemplified by two cases—The Aborigines of the north-eastern part of the territory, vary considerably in some of their habits from those to the southward and westward—The more circumscribed limits roamed over by each tribe—Abundance of indigenous food for the native population in the north-eastern districts—Im-

possibility of their ever suffering from famine—Exaggerated statements respecting the miserable condition of the Aborigines of New South Wales—Comparison between them and other savage races, in several respects advantageous to the former—Customs of the natives of the MacLeay river—Their Cawarra ceremonies different from those of the generality of the Aborigines—Description of the Cawarra—Accounts of some fights between different tribes of the MacLeay river—Their cruelty and treachery towards the whites—Their civilization almost hopeless—Their wonderful intelligence.

Although Australia is singularly deficient in large quadrupeds, and does not possess any of those animals which afford the exciting pleasure of the chase in other countries; yet I think the Australian sport of kangaroo-hunting possesses, at any rate, equal attraction to coursing the hare in England. For instead of being a weak, helpless animal, like the hare, the kangaroo, although quite as timid and inoffensive, is capable of contending vigorously with his pursuers, when driven to desperation, and from the tremendous bounds he makes over all obstacles in his way, he gives, if hunted in a thickly wooded mountainous country, plenty of work both to horses and dogs.

The varieties of kangaroos in New Holland are extremely numerous, those most frequently met with on the north-eastern part of the territory, are, the large Forest-kangaroo, (*Macropus major*,) the Wallabi, (*Halmaturus Ualabatus*), the Pademella, or brush-kangaroo, (*Halmaturus thetis*), the silver Wallabi, (*Halmaturus elegans*,) the black Wallaroo,

and the Kangaroo-rat. The red-backed kangaroo, (*Macropus laniger*,) is occasionally seen on the open elevated table-land.

The largest kangaroo I ever saw was killed close to my tents at Munga creek at the MacLeay river, it weighed very nearly two hundred and fifty pounds, and disabled one of the dogs which had attacked him. It is scarcely necessary to mention that the kangaroo only uses his fore-feet for grazing or digging He advances by a succession of leaps, in making which, his tail, which he carries at right angles to his body, is of great service; some of them have been known in these leaps to spring over obstacles eight feet high.*

The best dogs for hunting this animal, are those which are a cross between the greyhound and some larger and coarser dogs; the lurcher and the large Scotch deer-hound are very well suited for this kind of sport. As soon as a kangaroo is started, he bounds away for some minutes at as fast a rate as the fleetest dogs, but the latter soon gain upon him, especially if he ascends the steep slope of a range, which is peculiarly disadvantageous to his manner of progression. However, if the country is very brushy and rocky, he frequently escapes from his facility of clearing all impediments in his way, by his amazing leaps.

Whilst the chase lasts the horses must keep up a

* Lieut. Breton once saw an instance of a kangaroo clearing fifteen yards at one spring in descending a slope!

Kangaroo at bay

very fast pace; and in the densely wooded coast country, there is ample scope for proving the mettle of one's horses, in leaping across water-courses, and rocky brooks, clearing fallen trees, and thorny bushes, and galloping down steep ranges. A well trained dog, in coming along-side of a kangaroo, springs on that animal whilst in the air, seizing it near the root of the tail; the weight of the dog, brings him to the ground, when the former instantly lets go the tail and fastens on the throat. In effecting this manœuvre, an awkward dog is frequently torn, or ripped open, by the kangaroo's hind legs, which are armed with hooked claws of great size. It is no uncommon occurrence for him to stop and stand at bay against a tree; when a dog ventures to attack the kangaroo whilst in this position, he generally suffers for his temerity; and it is necessary, on such occasions, for the sportsman to dismount, and approaching from behind, cleave his skull with a couteau de chasse, or tomahawk. He sometimes rushes into a pond of water when pressed hard, and has been known to drown dogs which swam to attack him.

The small brush kangaroo, or Pademella, is easily killed by the blacks who hunt them in the brushes, in the way I have before described; the whites, however, find it rather difficult to shoot them, on account of their being so much concealed by the fern, matted creepers, and briars. On starting one in the brush, it generally rushes into the thickest part of

it, and again halts at a short distance, if not pursued. If the sportsman does not get a shot on starting it, he should wait until the cessation of the sound of the jumps of the retreating animal indicates that it has again stopped. He must then advance cautiously towards the spot, making a low continuous whistle, like the note of the Wonga-wonga pigeon; as long as this sound continues the animal never stirs, and it can be easily approached and despatched.

Great diversity of opinion prevails respecting the flesh of the kangaroo, some persons considering it nearly as good as venison; the colonists of South Australia seem to be of that opinion, since kangaroo flesh sold, a few years ago, at Adelaide market, at the rate of nine-pence a pound. The reason of this high price was, however, probably the great demand for it by the newly arrived emigrants, who were all curious to taste the flesh of this outlandish quadruped. In New South Wales, kangaroo meat is little esteemed, with the exception of the tail, which is made into a soup, superior to ox-tail. During the period I was engaged in the survey of the country to the northward of the MacLeay river, my dogs killed some almost daily; I generally kept the tail and a few steaks for my own table, leaving the rest of the carcase for the blacks, or the wild dogs. As far as my own taste goes, I certainly think that a kangaroo steak is palatable enough if dressed in the same manner as veal cutlets or venison collops; whilst the small pademella, if cooked in the same

manner as hare, is undoubtedly excellent. The tails of some of the largest varieties, which I have run down with my dogs, weighed from eleven to fourteen pounds each, consisting of masses of sinew, which yield a large quantity of gelatine when boiled.

The Dingo, or Native Dog, of New South Wales, is the only beast of prey in that country, and is keenly hunted by the settlers, as it frequently worries sheep, and sometimes seizes new dropped calves, which I have myself known these dogs to do at the MacLeay river. The animals of the colony are so well known that it is scarcely necessary to describe the Dingo; it is rather more than two feet high, and about two feet and a half in length; its head nearly resembles that of the fox, with a muzzle furnished with whiskers, and short erect ears; its colour is of a light reddish brown, its tail rather brushy, resembling that of the fox. Many of these dogs have been brought to England, but no kindness seems able to conquer their savage nature, and make them assume the habits of the domestic dog. A few years ago, a friend of mine brought home with him from the colony of Van Diemen's Land, one of these wild dogs; he kept it fastened up at his residence at Clapham, but it one day broke its chain and escaped, and although it was secured again before many hours had elapsed, yet it had, in the mean time, worried a pet flock of sheep, belonging to a gentleman who resided in the vicinity, and killed several of them. A good many years

ago, a female of this species was sent as a present to Mr. Nepean from Captain Philip. From its fierceness and agility, it had greatly the advantage of animals much superior to it in size; for a very large fox-dog being put to it, in a moment it seized him by the loins and would have put a period to his existence, had not some one been at hand. With the utmost facility it could leap on the back of an ass, and was once very near worrying one to death, having fastened on it so firmly that the creature was not able to disengage itself without assistance; it has likewise been known to run down both deer and sheep. This dog would not eat dressed meat; I am not, however, aware, whether the numerous specimens of this animal now in the Zoological Gardens, and Menageries, are equally particular in this respect.

The tenacity of life in the Australian dingo is most wonderful. The saying, that a cat has nine lives would be much more applicable to this animal, for I have known instances in which dingos have been badly wounded by ball or buck-shot, worried and torn by dogs, and to all appearance killed; and yet the moment their bodies were abandoned they would become resuscitated and limp off into the brushes.* The dingo affords good sport if hunted like the fox. In the more prosperous times of the

* Dr. Bennett's "Wanderings in New South Wales," contains several amusing examples of this peculiarity of the Australian wild dog.

colony two or three well organized hunts existed in different parts of New South Wales, such as the Sydney hunt and the Bathurst hunt, where the riders appeared in regular costume. A very fine, much admired kangaroo-dog of ours, a beautiful brindled animal, possessing all the good qualities of the greyhound, with superior power, was remarkably successful in pulling down the dingo: on one occasion he killed no less than three in one day, besides several kangaroos, on the sea coast near Mount Taolkungaia to the northward of Port Macquarie.

The Emu is also hunted with dogs; this bird is most frequently met with in the interior country beyond the eastern and western waters. Dogs that are accustomed to hunt the emu, invariably seize that bird by the neck, and dispatch it in a moment; but young dogs, or dogs unaccustomed to this sport are often seriously injured, if they attempt to seize the emu by the flank or leg, as it can give a most powerful kick, sufficiently strong to break the leg of a horse. The flesh of the emu resembles a beef-steak, being very juicy and succulent.

There are no birds in Australia to be shot with dogs, with the exception of quails, and some of the aquatic birds in the reedy swamps and lagoons, such as ducks, moor-fowl, and snipes. The varieties of quail in New South Wales, are, the 'Coturnix Australis,' which is rather larger than the English quail, and more resembles the partridge in the colour

of its plumage; the 'Coturnix pectoralis,' which is almost identically the same as the English species; and the 'Turnix velox' which is rather smaller. In the district of Port Macquarie, and at the MacLeay river, quails were particularly abundant. I remember that on one occasion, Mr. T— of Port Macquarie, shot no less than thirty brace in a few hours, on the cultivated alluvial plain at our squatting station at the MacLeay river.

There are several varieties of ducks in New South Wales, such as the brown duck (*Anas superciliosa*), which is rather larger than the English wild duck; the wood duck, which occasionally perches on trees; the large green-headed shieldrake, the white-headed or Rajah shieldrake, the Australian shoveller, &c.

It is worthy of remark how wary the Australian ducks become after they have been shot at a few times, so much so that it is impossible to approach sufficiently near in a boat, to the large flocks of ducks which alight on the estuaries of the rivers, to reach them with a common gun. As I employed a large punt-gun for this purpose, I however made great havoc among them at the MacLeay river; but there is more sport in shooting ducks among swamps and reedy lagoons with water spaniels. These swampy lagoons are also resorted to by wild geese, and several varieties of moor-fowl and water-rails, among which is a beautiful blue bird with scarlet bill and legs, and as large as a fowl. This bird can only take very short flights, and is easily taken by

the blacks, who, when the reeds are dry, set fire to them, in order to dislodge these birds, and thus kill great numbers.*

One of the best birds for the table is the brush-turkey; it lives solely in dense brushes, and is about equal in size to a guinea fowl. Its plumage is dark-coloured, and it has a naked head and neck resembling that of a turkey. The manner in which the eggs of this bird are hatched is very singular. It collects an immense quantity of leaves and rotten sticks, and forms with them an enormous nest of several feet in diameter and of a conical shape. In this mass of decomposing vegetation, several of these birds lay their eggs, which are excessively large in proportion to the bird itself, as they are much superior in size to the eggs of the goose or common turkey. These eggs are carefully buried in the nest, and become hatched by the heat generated by the decomposition of the leaves, &c. of which the nest is composed. The brush-turkey is a foolish bird, very easily shot, and which consequently soon becomes scarce, as the banks of the rivers become occupied by settlers. The stupidity of the brush-turkey may be judged of, from the fact, that one evening, when my tents were pitched in the brush, on the banks of Kinchela creek, a turkey ran right across the fire, and was caught by the men. It also frequently falls a prey to the dingo.

* The Native Companion, or Gigantic Crane, is also very frequently seen in the swamps. It is six feet in height.

The varieties of pigeons and doves in New South Wales are exceedingly numerous. Those most commonly met with are the Wonga-wonga, or pied pigeon, the flock-pigeon, the bronze-wing pigeon, the black pigeon, and the fruit-pigeon, (*Palumbes magnifica.*) The Wonga-wonga is larger than the English wood-pigeon. It lives entirely in dense brushes, and feeds on the berries of various trees belonging to the myrtle tribe. This bird is rather difficult to shoot, as it sits buried in the dense foliage overhead, and starts off suddenly on the approach of man, with a rapid flight, making a loud whirring sound with its wings, like a partridge. The flesh of the Wonga-wonga is very similar to that of the pheasant, being quite white but very rich, and this bird has often furnished my bush table in the wilds of Australia with a "plat," not to be despised by the most fastidious gourmand. The flock-pigeon, so called from its being a gregarious bird, also resorts to the brushes, where it feeds on various berries, and on the figs of the Australian India-rubber tree, whilst that fruit remains in season. These birds are easily shot when they feed on the lower branches of the trees, but on the higher branches they are beyond the reach of ordinary guns. The flesh of these birds is dark-coloured, like that of the English wood-pigeon, which it somewhat resembles also in plumage, its eye is of a bright crimson, and its head is crowned by a tuft of reddish-brown feathers.

The bronze-winged pigeon, lives in the open forest country, and in the barren sandy scrubs round Sydney ; it is smaller than the other kinds of pigeon, and derives its name from the metallic lustre of its wings; it is easily shot. The black pigeon, and nearly all the other varieties, have the same habits as the Wonga-wonga, living in the brushes and feeding on the berries of the myrtle tree. The fruit-pigeon is the most remarkable, as its plumage is perhaps the most beautiful of all the pigeon tribe. It is rather larger than the wood-pigeon of Europe, its back, wings, and tail are of the brightest grassy green, its breast deep purple, the under parts of the wings orange, and the head and neck pearl grey. Its flesh is very good, being similar to that of the common pigeon, and they are generally very plump, and in excellent condition.*

The doves of Australia are of great variety; pink, green, purple, and brown, being the predominant tints in their plumage ; they are easily shot, and very good for the table. In the more open inland parts of Australia, where other birds are somewhat scarce, the spur-winged plover is to be met with. This bird derives its name from the spurs on its wings, with which it fights fiercely ; it is of a large size and easily shot.

There are many other birds in New South Wales,

* In the interior levels, in the north-western part of the territory, is the crested bronze-wing pigeon, and two or three other varieties peculiar to those regions.

which may occasionally afford some amusement to the sportsman of that country; such as snipes, curlews, black swans, pelicans, divers, godwits, red-bills, swamp pheasants, lyre birds, bustards, &c. &c. The Australian snipe differs but little from that of Europe, and it frequents similar localities. The curlews are of a large size, and display that extreme wariness and shyness of man, which characterise that numerous tribe of birds all over the globe. They alight in large flocks on the sand banks in the estuaries of the rivers, and can seldom be shot unless approached from behind the mangrove brushes.

Black Swans frequent the mouths of rivers, and salt lagoons, and are easily shot. During the moulting season the black swans may sometimes be caught by rowing swiftly after them in the secluded reaches, where they remain during that season, for from the loss of their pen feathers they are often unable to fly. After selecting an unfortunate bird, who happens to be in this predicament, the sportsman must follow it closely in the boat, dodging it in every direction, until after an hour's pull, the swan begins to beat the water with its wings, which is a sure sign that it is tired out, and in a few minutes it gives in, and is secured.

The Pelicans of New South Wales, are larger than those of Africa and Asia; they frequent the mouths of the more secluded rivers in the northern part of New South Wales, in immense flocks, which are employed in fishing during high water, and stand

huddled together on the sand-spits during low water, to digest their meal. My men ate some of the flesh from the breast of one I shot, and they told me that it was like beefsteaks, but I should think that it could have been any thing but palatable. The men have occasionally procured nearly a quart of oil from a single pelican, as these birds were in general extremely fat.

The divers and godwits differ but little from those of England; the red-bill is found near the sea coast, and is very plump and well-flavoured, not possessing the slightest rank or fishy taste. The swamp-pheasant somewhat resembles that of England, in shape, but is very much smaller; it is a stupid inactive bird, generally found among swamp-oak thickets, bordering on marshes. The lyre-bird derives its name from its elegant and curiously shaped tail; it frequents shrubs and thickets, and is easily approached and shot. The bustard is a large bird, weighing fourteen or fifteen pounds, but is rather rare.

On traversing the dense brushes of New South Wales, the sportsman, as he climbs over the prostrate timber, and crawls under the entangled creepers and briars, must take care that he does not put his hand on some venomous snake. These disagreeable reptiles are particularly abundant in the north-eastern part of the territory of the colony, where the country is so brushy and swampy. Nearly all the snakes of New South Wales are poisonous, for

of ten species that have been examined by naturalists, seven were ascertained to be highly venomous. The popular names of the most common varieties, are as follow.

The Diamond snake.—This snake is beautifully variegated by black and yellow lozenge-shaped marks, from whence it derives its name. It has a small neck, compared with the size of its head; and is rather slender in proportion to its length, which is about eight or ten feet, although it frequently attains the length of fourteen, and sometimes even sixteen feet. I have heard of instances of a greater size than this, but it was on the rather questionable authority of stockmen and sawyers; I have never seen a Diamond snake myself, longer than fourteen feet. It feeds on kangaroo-rats, bandicoots, young pademellas, and quails, and is said to be poisonous, which I am inclined to think is not the case.

The Carpet snake is so similar to the Diamond snake, that the only distinction between them, seems to be, that one has a white belly, and the other a yellow one. Whilst Mr. Montgomery Martin was in New South Wales, a native brought to him, at Paramatta, a snake belonging to one of these varieties, which was fourteen feet in length. Mr. Martin tried various poisons on it without effect, but large doses of calomel speedily destroyed life.

The Brown snake.—A very venomous species.

The Yellow snake.—This variety attains a large size, and its bite is mortal.

The Whip snake.—This is the only arboreal or tree-snake, that I am acquainted with in the colony. It is a handsome, agile reptile, extremely long in comparison to its size, and derives its name from its resemblance to a large whip. It is of a greenish colour, with yellow underneath.

The Ring snake.—A small species, marked by alternate black and white rings.

The Death Adder.—This hideous reptile is of a dusky hue, seldom more than two feet and a half long, but immensely thick in proportion to its length. At the extremity of its tail is a small pointed, hardened process, with which the sawyers and labourers fancy that it can inflict a sting like a scorpion. The Death Adder, perhaps, possesses the most intense venom of any Australian serpent, for many persons have, at various periods, died in consequence of its bite, which is most rapidly fatal. Dogs expire in a very few minutes after they are bitten. Another smaller kind of snake, of a brown colour, would however appear to be nearly as bad as the Death Adder, for since I have been in the colony, a man at the Williams river was bitten by a snake of this description, and died in a quarter of an hour. This snake was under a plank which the man was removing, and so slight was the bite inflicted by its fangs, that the man did not know at first that he was bitten, and remarked to his comrade, that he had a narrow escape. The Death Adder is extremely sluggish in its habits, and rarely

moves out of the way of persons approaching it; I am therefore inclined to think, that the original popular name assigned to this reptile, must have been Deaf Adder, instead of the Death Adder.*

The Black snake.—This species is of extremely active habits, bold, strong, and very vindictive if assailed. The general length of this snake near Sydney, is about four or five feet, but more to the northward it attains the length of eight feet. Its colour, as its name implies, is of a leaden black, with scarlet bands on its belly. This is one of the most common snakes, especially in the northern part of the colony, and is very venomous; although Dr. Shaw, who first described it in his work on Zoology, did not consider it a venomous species. I have, however, known too many instances to the contrary, to have any doubt as to its being venomous; and I see that M. Lesson, the distinguished French naturalist, who accompanied the Coquille in her voyage in the South seas, has especially noticed the extreme venom of this kind of snake, under the name of Naja Porphyrica.

The poison of the generality of Australian snakes, appears to act differently from that of the rattle-snake of America, or the viper of Europe, for

* Lieutenant Breton mentions, that a man who was bitten by a Death adder, died in a short period, with blood gushing from his eyes, nose, mouth, and ears, and the body became instantaneously a mass of putrefaction, so that it was with difficulty removed into a grave.

whereas the poison of the latter species creates immediately a marked effect on the punctured wound, causing violent swelling, intense pain, and a yellow or livid hue over the surface; the bite of Australian snakes does not cause much pain or inflammation in the wound itself, but seems principally to affect the whole nervous system, rapidly causing the patient to fall into a comatose state. In this respect the poison resembles that of the asp of Egypt. I can speak from experience on this subject, having been myself bitten by a large snake three years ago, at the MacLeay river; a rather exaggerated account of which accident was sent at the time to the Sydney Morning Herald, by one of the country correspondents of that paper.

The manner in which the accident occurred was as follows:—I was riding in the forest, about three miles from our station; attired in very loose nankeen trowsers, and thin Wallabi-skin boots. Being very thirsty, I rode hastily to a pond of water, and disengaging both my feet from the stirrups at the same time, I leapt very suddenly to the ground. Instantaneously, as I alighted on my feet, I felt a sharp prick in my instep, like that of a needle, and found that I had trodden on a very large snake, which had turned and bitten me through the Wallabi skin. Although my boot, from its extreme thinness, (being as slight as kid leather) had allowed the fangs of the snake to wound me through it, I did not, at that moment, anticipate any danger,

as I conceived that the tooth, passing through the boot, would be deprived of its venom. However, I galloped home as fast as possible, and as some native blacks were luckily encamped at our station, I sent for them as the best doctors in such a case. On drawing off my boot, and exposing the punctures, one of the blacks first held the wounded foot, for a few moments, to the pit of his stomach, and then commenced sucking it. In the mean time, one of the men assigned to us, who had been a surgeon in England before he was transported, was brought up by my friends to examine the wound, which he immediately laid open with a lancet, and then applied some nitric acid to it, after which the blacks continued to suck it as before. About twenty minutes from the time that I had been bitten, I began to feel excessively drowsy, without experiencing any pain or uneasiness, with the exception of a slight nausea of the stomach. This drowsy feeling gradually increased, so that my friends around me had the utmost difficulty in keeping me awake, whilst the most pungent smelling salts applied to my nostrils, did not in the least affect me. During the whole of this paroxysm, I remained perfectly conscious, but at one time my sight was seriously affected, so that, although I had been placed in a chair under the verandah, and the meridian sun threw its rays on the garden palings opposite, every thing, at one time, appeared to me to be enveloped in a kind of mist. About two

hours after the bite, I had quite recovered, but experienced during the remainder of the day, considerable lassitude and pain in my limbs, as though I had undergone great fatigue.

I do not think that the fangs of any Australian snake could, however, penetrate through an ordinary leather boot. Indeed, in my survey of the brushy and swampy district, adjacent to the lower part of the MacLeay, I have frequently inadvertently trodden upon snakes, or otherwise come into close contact with them, with perfect impunity; and a black snake, on one occasion, seized the foot of one of my men, but could not bite through the boot. The following story respecting the rattlesnake of America, would seem to indicate that leather is, at any rate, no protection from the bite of that kind of serpent. A man had been bitten through his boots by a rattlesnake and died. The boots afterwards descended into the successive possession of two other persons, and killed them both;—and it was then ascertained that an envenomed fang had remained sticking in the leather.

Being on the subject of snakes, I may here mention a very curious sea-snake which I killed about three years ago in Tryal bay. It had been calm for some days previous, and as I was walking by myself along the sands at low tide, I saw, coiled up on the moist sand, a few feet from the surf, a snake of a dusky colour. Surprised to see a reptile of this description in such an unusual position, and having

nothing with me to attack it, I ran back to the shore, from which the tide recedes a considerable distance at low water, to obtain a stick, and then retracing my footsteps, I found the snake had not changed its position. A few slight blows easily dispatched it. On examination, I found it was five feet in length, its head and neck of the same size; its body of a brown and black colour, whilst its tail was perfectly flat, being, for the last six or eight inches, of a pale flesh, or dirty rose colour, about two inches broad, and extremely thin, the flatness of the tail being lateral. There being a cedar vessel in the MacLeay river at the time, I carried the snake on board, thinking that some spirits might be in the schooner in which I might preserve it, but I was unable to procure any. On shewing this snake to the blacks, they seemed to recognise it, and said that it belonged to "cobbaun water," (the ocean,) and was "a murry saucy fellow," meaning that it was very venomous. I subsequently consulted several works, where any allusion is made to sea-snakes (Hydrophis); especially Lesson's voyage in the Coquille, and Peron's voyage, but I did not find that the Hydrophis pelamys, and other varieties described by those naturalists, agreed with the species I had killed. Not being at all conversant in Zoology, I do not know to what described species of Hydrus, the snake I killed, belonged; I have, however, not been able to find a single instance where sea-snakes have been seen so far south of the

equator, as the latitude in which I encountered this one, which was in 30° 50′ south. The coasts of Coromandel, Sumatra, and New Guinea are those where this genus of serpents is principally met with; Dampier, however, saw some on the north-western shores of New Holland, and Sir Joseph Banks on the eastern coast, but none farther from the equator than 20° south. That they extend farther from the equator is, however, evident, from the apparent recognition by the blacks of the species I killed; besides, I saw, on another occasion, a portion of the skeleton of a snake, which might certainly have appertained to a land-snake, but which, from the locality where I found it, most probably had belonged to an Hydrophis. As an instance of the singular habits and poisonous nature of the genus Hydrophis, I have copied the following anecdote from the last new edition of the Encyclopædia Britannica.

"Soon after the opening of the bar in the month of October, 1815, reports prevailed at Madras that a great shoal of sea-snakes had entered the river, and that many natives, whilst crossing, had been bitten, and had died in consequence. A reward was offered for each of these creatures captured and carried to the superintendant of police. Pandauls were erected opposite to the two principal fords, and skilful natives, under the direction of Dr. M'Kenzie, (to whom we are indebted for the information), were provided with eau-de-luce, and other

remedies, and ordered to afford immediate aid to those who might have been bitten. Many were bitten accordingly, (the snakes seeming in no way loth to expedite the result), and all exhibited the symptoms usually consequent upon the action of a powerful animal poison ; but none died. We shall state a couple of cases with the mode of treatment. A native woman, whilst crossing near the custom-house, was seen, on emerging from the water, to shake off something from her foot. This, to several spectators, appeared to be a water-snake. The woman, after advancing for a few paces from the river, fell down, and was immediately carried into the pandaul. On examining her feet, two small but distinct wounds were perceived on the ankle of the right leg ; her skin was cold, her face livid, her breathing laborious, her pulse scarcely perceptible. A ligature was immediately placed above the wound, which had been previously enlarged with a lancet, and a piece of carbonate of ammonia, well moistened with pure nitric acid, applied, while thirty drops of the eau-de-luce were administered nearly at the same time in a glass of water. In five minutes more a similar dose was poured down her throat, which seemed rather to increase the spasmodic affection of the chest, but the pulse at the wrist became distinct, though feeble. A third dose was repeated in three minutes more, on which she uttered a scream, and began to breathe more freely. Ten minutes had now elapsed since she had been carried into the pan-

daul, and in about three minutes more a tea-spoonful of the eau-de-luce was given, which almost immediately produced violent nausea, and a profuse perspiration. When a little salt was put into her mouth, she declared it was not salt but sugar; and this the natives deemed an infallible sign of still-continued danger. She soon, however, entirely recovered, and merely complained for three or four days of a numbness in the limb above the wound. Another case was that of a Lascar, who was bitten by a snake whilst in the middle of the river. He advanced a few paces after quitting the bank, and then fell down in violent convulsions. When brought in, his breathing was laborious, his skin cold and clammy, his countenance livid, and his pulse feeble at the wrist, but distinct at the temples. A quantity of froth and foam was ejected from between his teeth. He too recovered, after a similar mode of treatment; but he complained for many days *that he had no left leg*. On another occasion, a large healthy chicken was exposed to the bite of an Hydrus major, four feet long. It was bit in the foot, and in about ten minutes began to droop, and to show a slight convulsive flutter of both wings. In three minutes more it became convulsed, and at the end of seventeen minutes, from the infliction of the wound, it suddenly dropped down dead."

Nearly every work which has been published on Australia has contained some account of the Abori-

gines of that part of the world. In making any remarks on them, I should therefore be entering on a subject already discussed, but as the natives between Port Macquarie and Moreton Bay, with whom I have had much intercourse, differ in several of their customs and habits of life from those in the southern and western parts of the colony, I have appended to this work a few desultory observations concerning them; for notwithstanding the evident identity of origin, and general resemblance in their mode of life, which prevail throughout all the Aborigines of New Holland, there is often a very great diversity in the character, language, and customs of tribes in different localities, not very remote from each other, and in no part more so than on the coast country along the north-eastern part of the territory of New South Wales, where the abundance of food obtainable in the extensive brushes, and numerous rivers, enables each tribe to subsist on a very small tract of country, thereby occasioning some modification of their usual habits. As a proof of the distinctive features which sometimes form a strong contrast even between adjacent tribes, I may cite the extraordinary diversity in the character and customs of the Darling river tribes, which Sir Thomas Mitchell encountered in his second expedition into the interior; some of them being remarkable for the confiding and kindly feeling they displayed towards the exploring party, and the total absence of the slightest indications of

fear and surprise, at the unwonted aspect of the white men, whilst others were equally remarkable for their excessive fright and astonishment; others again, such as the "Spitting tribe," and the "Fishing tribe," were animated by the most implacable hostility towards the party, and displayed the most boundless audacity and courage; the Spitting tribe, in particular, exhibiting a series of furious demoniacal gestures, such as have never been witnessed in any other part of Australia. These tribes also differed from each other in their mode of erecting their huts, burying their dead, &c. and Sir Thomas Mitchell even detected a considerable difference in their language.

I have remarked that the blacks between Port Macquarie and Moreton Bay, are much more circumscribed in the extent of country roamed over by each tribe, than those in the thinly wooded tracts in the western and southern parts of the colony. Thus, whereas, in the interior, Sir Thomas Mitchell found on the Murray, the identical natives that had attacked his party on the Darling, 400 miles distant, and who again displayed the peculiar ferocity for which they had been before distinguished; the tribes in the north-eastern coast districts, invariably keep within very narrow limits; the extent of country appertaining to each of them seldom exceeding one hundred and fifty square miles, and generally consisting of twelve or fifteen miles of frontage in a straight line along some river, with the adjacent

back country. Thus on the immediate banks of the MacLeay river alone, there are six distinct tribes; viz. the Yarra-Hapinni, and Clybucca tribe, the Calliteeni or Kempsey tribe, the Yarra-Bandini, Munga, Wabro, and Conderang tribes, besides several others near the sources of the river among the mountains. Each of them contains on an average from eighty to a hundred men and women, exclusive of children, but the whole body of a tribe is never united on the same spot, unless on some important occasion, such as to deliberate on making war with some adjacent tribe, to dance a Corroberree, perform the Cawarra ceremonies, or join in a fight. They are more generally divided into small parties of eight or ten men, with their women and children, for the greater convenience of hunting, &c. and these detached companies roam over any part of the country within the prescribed limits of the main tribe to which they belong.

I have observed that the blacks on the banks of the numerous coast-rivers, beyond Port Macquarie, are able to procure an abundance of food with little trouble. I have already described the manner in which the Nambucca river natives procure, with great ease, the Pademellas, or brush kangaroos, which are so abundant in the entangled jungles. In addition to these, flying squirrels and opossums, with flying foxes, swarm in the brushes, also a large kind of bat, of which the blacks are fonder than any other animal food; the flesh of the flying fox

certainly looks well enough, and I have heard that at the Mauritius a similar sort of bat is eaten by the planters.

The large forest kangaroos are seldom hunted by the natives in this part of the colony, for during my residence there, I never remember more than two occasions on which I have seen the blacks feeding on kangaroo, which they had speared themselves; indeed, if the forest kangaroo should become entirely extinct in this part of the country, it would be quite immaterial to these natives.

Fish, in the numerous rivers along this part of the coast, forms a never-failing article of food for the blacks, whom I have seen, at the MacLeay and Nambucca rivers, spear in a few minutes sufficient fish for the whole tribe, on the shallow sand-banks and mud-flats on that part of the river, which rises and falls with the tide. The sea-beach abounds with clams, oysters, and cockles, at all times procurable, whilst large cray-fish and crabs are caught among the rocks. In the lagoons and running streams, the natives obtain several kinds of fish, large eels, a small kind of lobster and fresh-water muscles.

The reptile kingdom is also brought into requisition by these omnivorous savages. All the larger varieties of snakes are eaten by them, but they will never touch one that has been killed by a white man. Guanas, and a short thick kind of lizard, called the Dew-lizard, are also much relished by them. However repugnant the idea of eating rep-

tiles seems to us, it is from a real liking for their flesh that the Australian savages eat them, and not from the great scarcity of better food; for I have, on two or three occasions, known them when employed by me in assisting at the cattle musters, pulling maize, &c. and well fed on bread and beef, carefully preserve any snake they chanced to kill, and cook and eat it at the next fire. Induced by curiosity, I have on several occasions tasted the flesh of every one of the reptiles just mentioned, and although nothing but the most extreme hunger could make me conquer my aversion, so as to dine on them, I must nevertheless own, that not one of them possessed any disagreeable taste. The flesh of the black snake in particular was rich and juicy, somewhat resembling in flavour the flesh of a sucking pig, whilst that of the guana was whiter and drier, and more approximated to fowl. Besides, these savages are not the only race of men who eat reptiles, for the common water-snake of England, (*Natrix torquata,*) is eaten in several parts of the continent of Europe, and every one knows that the guana of the West Indies, (a much more hideous animal, by-the-bye, than the guana of Australia,) is considered very good eating by the planters in some of the islands.

The tree grub, which is very similar to the common nut maggot, on a larger scale, is also swallowed raw not only by the blacks, but by many of the whites, as it is very much like sweetened

marrow, and probably resembles a grub found in the trees of Central Africa, where it is esteemed a great delicacy.

The trees which fall into the brackish water in the lower part of the rivers soon become riddled by the Cobberra worm, which is of considerable length, and half an inch thick. It exhibits but faint indications of being a living animal when extracted from the wood, as it appears almost devoid of motion, and the natives let it slide down their throats with great gusto, in much the same way that the Italian lazzaroni swallow macaroni, to which cobbera has a great resemblance.

Several kinds of birds also fall a prey to the blacks in the dense brushes of the northern district, especially the brush-turkey, which I have already described, and whose large nests are often robbed by the native women or gins. These brushes also abound in many vegetable productions from which the natives obtain food. The principal of these is a large sort of yam or sweet potatoe, resulting from a small creeper, the roots of which penetrate to a considerable depth in the alluvial soil, from whence they are dug out by the gins, one of whose duties it is to collect them. The fern root, obtained from a species of fern, apparently identical with that of New Zealand, is rendered edible by beating it on a stone into a sort of paste, and then cooking it on hot embers. The root of the Conjeboi, a large-leaved plant, which grows on very moist

alluvial land, often flooded, is also eaten. The leaves and stalk of the conjeboi are full of a burning acrid juice, which blisters the lips if applied to the mouth. The root also contains this sap, but by pounding it between flat stones, and thereby expressing all the juice by continued beatings, (much in the same way in which the poisonous Manioc root is rendered fit for food in the West Indies,) it at last becomes an insipid farinaceous mass, which is then cooked and eaten. The swamps also furnish another edible root, resembling a parsnip in taste. The Coryphæ of New South Wales, such as the Cabbage palm and the Bangolo palm, yield an edible substance in the heart of the unexpanded leaves of their tufted heads.

The Cabbage palm is very similar in appearance to the Talipot palm of the island of Ceylon, (*Corypha umbraculifera,*) from the heart of which sago is made. The solid substance in the heart of the Cabbage palm, is of a white and rather spongy texture, which possesses the sweet taste of the Spanish chesnut, and is often eaten by the whites as well as by the Aborigines. The Bangolo palm contains a similar substance, whilst to the northward of Moreton Bay, the Bunya-bunya produces a fruit, sufficiently nourishing to suffice in itself to form the main food of the blacks in that region. The fruit of the tree popularly called the Australian Indian-rubber tree, and a great variety of other fruits and berries are also occasionally eaten by the blacks whilst in season.

It will thus seem, that in this part of Australia the blacks can never suffer from extreme hunger, or ever die from starvation, which catastrophe often occurs in New Holland, according to some authors. Indeed, throughout all the country along the eastern coast, the blacks have never suffered so much from scarcity of food as many commiserating writers have supposed; and even in the long settled district of Illawarra, near Sydney, they experience no difficulty in procuring abundance of food in the creeks and brushes.

It has been reported in some communication which I remember to have read from one of the German missionaries at Moreton Bay, that the natives have occasionally suffered so severely from hunger, that they have been known to bleed themselves, and afterwards cook the blood and eat it. So far from this being from hunger, I have known the same thing to be done at the MacLeay river, when abundance of food was close at hand; it is, in fact, a fancied cure for some ailment, and the bleeding is carefully performed with a piece of broken shell. Another practice, somewhat similar, but still more revolting, is also common among the MacLeay river tribes, in a case of illness. The wife or gin of the sick man procures a hollow conjeboi leaf, and a strong piece of string made of opossum fur closely twisted; she then draws the string violently backwards and forwards against her gums until they are terribly lacerated, and bleed profusely. She spits

out the blood as it exudes, into the conjeboi leaf, and continues to saw her gums until she has obtained a considerable quantity of blood, which is then swallowed by the sick man !*

In the thinly wooded plains, and arid country beyond the mountains dividing the eastern and western waters, the blacks experience much greater difficulty in procuring food, and sometimes suffer severely from famine in times of drought; and from this reason the tribes of the interior wander over a much more extensive tract of country than the coast blacks.

Although, from the preceding details, the Australian natives might be deemed the dirtiest savages in the world, with regard to the nature of the food they eat, and their mode of cooking it, yet such is not the case. It is quite true, as many writers have reported, that the produce of the chase, such as opossums, squirrels, pademellas, guanas, ducks, &c. are thrown down unskinned and unembowelled before the fire, and devoured, entrails and all. But having often observed the mode of cookery pursued by the Australian Aborigines, I have never seen them omit to extract the entrails as soon as the animal was warmed through, and they are then carefully cleaned and cooked separately. With regard to the skin being left on, (which is not always the case,) it is purposely done in order to

* Many of the superstitious practices of the American Indians are equally disgusting.

retain the juices of the meat, which would otherwise be dried up by their simple mode of cookery; but as soon as the animal is sufficiently done, the skin is easily pulled off, and rejected. The MacLeay river natives always clean and gut their fish, and cook them carefully on hot embers, and they eat nothing whatever in a raw state, except cobberra and grubs. The Australian Aborigines, therefore, though not remarkably scrupulous as to cleanliness, are, at least, equally so with the less uncivilized New Zealanders, and much more so than many of the African tribes; and their food is, at any rate, not of a more revolting nature than that of other uncivilized communities, such as the blubber and train oil of the Esquimaux, fish in the last stage of putrefaction, which are relished beyond all other food by the Samoyeds, the uncooked horse-flesh of some of the Tartar tribes, and the heterogeneous rubbish devoured by the Boshiesmen, who have even been known to roast and eat the old cast-away shoes of the Dutch boors. So dainty were the blacks at the MacLeay, that I knew them refuse to take any of the flesh of a bullock in fine condition, which was accidentally killed in the bush.

The MacLeay river tribes do not practise so much brutality towards the women as I have seen in other parts of the colony. The girls, as they become marriageable, are either taken by men of the same tribe, or else are sometimes given to those of the neighbouring tribes at the close of some corroberree,

without any violence. In a few rare instances, I have known the females to be forcibly stolen away, but hostilities then, invariably, ensued between the injured tribe and the tribe of the aggressors. None of the women bore those frightful scars and cicatrices, resulting from the blows of their inhuman masters, which scarcely any female in the tribes south of Sydney is exempt from.

It is remarkable, that whilst a great proportion of the men of a tribe are unprovided with '*gins*,' numbers of them are allowed to retain two, and even three. In other respects, a rigid equality is preserved among the different members of the tribe; thus, if a pair of trowsers, handkerchief, or coat, be given to any black, he is allowed to keep it a certain time, and then it is worn by the others in succession until it is destroyed, or they become tired of it.

As the boys of a tribe approach the age of puberty, a grand ceremony, to inaugurate them into the privileges of manhood, takes place. This ceremony is entirely different at the MacLeay and Nambucca rivers, to what it probably is in other parts of the colony, for the natives there do not strike out the front tooth as elsewhere. When a tribe has determined on initiating their youths into these rites, they send messengers to the surrounding tribes of blacks, to invite them to be present on the occasion. These messengers or ambassadors appear to be distinguished by having their head-bands

coloured with very pale yellow ochre, instead of the usual deep red, whilst their hair is drawn up and crowned by the high top-knots of grass, resembling nodding plumes, which ornament is, I think, peculiar to the blacks north of the Hunter,—at least, I have never seen it farther south, where the hair is usually matted with gum, and decorated with dogs' tails and teeth. After all the preliminaries are settled, and the surrounding tribes arrived, the blacks repair to the Cawarra ground. This is a circular plot about thirty feet in diameter, carefully levelled, weeded, and smoothed down. It is, in general, situated on the summit of some round-topped hill, and the surrounding trees are minutely tatooed and carved to such a considerable altitude, that one cannot help feeling astonished at the labour bestowed upon this work. The women are now dismissed to the distance of two miles from the Cawarra ground; for if one of them should happen to witness, or hear any portion of the ceremony, they would be immediately put to death. The first evening is passed in dancing the ordinary corroberree; during which, the invited blacks sit round their respective fires as spectators, whilst the boys, who are to undergo the ceremony, squat down in a body by themselves, and keep up a bright fire for the dancers. From the repugnance which the blacks at the MacLeay displayed on my looking at their performance, and their angry refusal to allow me to see the main part of the ceremony, I am unable to

give a regular account of it, having only been able to obtain occasional glimpses. After many preliminary grotesque mummeries have been performed, the doctors or priests of the tribe take each a boy, and hold him for some time with his head downwards near the fire. Afterwards, with great solemnity, they are invested with the opossum belt; and at considerable intervals between each presentation, they are given the nulla-nulla, the boomerang, the spear, &c. Whilst these arms are being conferred upon them, the other natives perform a sham fight, and pretend to hunt the pademella, spear fish, and imitate various other occupations, in which the weapons, now presented to the youth, will be of service. As these ceremonies occupied a fortnight or more before they were concluded, many other ridiculous scenes were undoubtedly enacted, and during all this time, the women did not dare to approach the performers. Each man was also provided with a singular instrument, formed of a piece of hollowed wood fastened to a long piece of flax string; by whirling this rapidly round their heads, a loud shrill noise was produced, and the blacks seemed to attach a great degree of mystic importance to the sound of this instrument, for they told me, that if a woman heard it, she would die. The conclusion of this ceremony, was a grand dance of a peculiar character, in which the boys join, and which the women are allowed to see. This dance is performed with much more solemnity than the ordinary

Dance at the conclusion of the Cavarra Ceremonies.

corroberrees. The Yarra-Hapinni tribe, which I saw execute this dance near the Clybucca creek, were so elaborately painted with white for the occasion, that even their very toes and fingers were carefully and regularly coloured with concentric rings, whilst their hair was drawn up in a close knot, and stuck all over with the snowy down of the white cockatoo, which gave them the appearance of being decorated with white wings. In this dance, the performers arranged themselves in the form of a semicircle, and grasping the ends of their boomerangs, which are also painted with great minuteness and regularity, they swayed their bodies rapidly from right to left, displaying a degree of flexibility in their limbs, which might have created the envy of many a pantomimic artist. Each movement of their bodies to and fro was accompanied by a loud hiss, whilst a number of other natives similarly painted, beat time with sticks, and kept up an incessant and obstreperous song. Every now and then the dancers would stop and rush, crowding together, into a circle, raising their weapons with outstretched arms, and joining with frantic energy in the song. They would then be more composed, and walk backwards and forwards in couples, holding each other by the hand, until again roused by an elderly native to resume the dance. It was not until midnight that the noise ceased, which, every evening, whilst the ceremonies lasted, might be heard at a distance of two or three miles. The tribes of natives near

Sydney, where the boys are always deprived of their front teeth, do not seem to be so averse to the whites witnessing their ceremonies, which differ considerably from what I have just described.

In their mode of going through the ceremony, the boys being assembled together, and the whole tribe mustered for the occasion, a party of men armed and painted, advanced into the Cawarra ground, with loud shouts and clattering of their arms, and seized, one by one, the boys who were to undergo the operation. The latter were then placed together on the Cawarra ground, where they were to pass the night in perfect silence; in the meantime the other natives danced and sang furiously, whilst the doctors or "corradjees" went through a most ridiculous scene, groaning and contorting themselves in every position until they at length pretended to be delivered of some bones, which were subsequently used to cut open the gums of the boys before striking out their teeth. Next day the boys were brought into the centre of the Cawarra ground, whilst the other blacks performed various ridiculous antics around them in imitation of various animals. Sticking their boomerangs vertically in their opossum-skin belts, so as to bear some resemblance to the tail of the native dog, they ran on all fours past the boys, throwing up dust, whilst the latter remained motionless, with downcast eyes. They next fastened to their girdles long pieces of twisted grass, to resemble the tail of

the kangaroo; and then bounded round the boys in imitation of the movement of that animal, whilst others pretended to spear them.

All this time an incessant shouting, singing, and dancing, had been kept up. After this the boys were placed in a cluster together, with their heads lowered and their hands crossed over their breasts, whilst the most ridiculous antics were performed by the rest of the natives, who, mounted on each other's backs, threw themselves on the ground, whilst the boys were made to walk over their prostrate bodies, and executed a multitude of evolutions with their spears and shields. The final operation was then performed; the gums being lanced with the bones before mentioned, a stick was applied to the tooth, and a large stone employed to strike it out. As each boy lost his front tooth, the gum was closed up, but the blood was not allowed to be washed or wiped off; he was then furnished with the belt of manhood, boomerangs, &c. and joined in the corroberree dances which concluded the ceremony.

The fights of the natives are generally conducted on the principles of retributive justice. Their mode of warfare is fair, open, and manly; for tribes on hostile terms scorn to take the least undue advantage of each other, and the instant a fight is concluded, both parties seem perfectly reconciled, and jointly assist in tending the wounded men. In this respect the quarrels of the Aborigines of New South Wales, present a striking contrast to the cruel and

treacherous warfare of the North American Indians, and the ferocious and implacable contests which used to take place among the *ci-devant* man-eating New Zealanders.

Acts of treachery sometimes occur between individual natives, but these acts, though they involve the tribe, to which the offending party belongs, in war with the other tribe, are always punished, as the offender has always to bear the brunt of the engagement, and stand for some time alone, unassisted by his companions, as a butt for the spears of the immediate relations of the man whom he has killed or wounded.

It seems to be a regular principle with the Australian Aborigines, that blood must be shed for blood; and as an example will better illustrate the warfare of the natives, than a general description, I will give a short account of a quarrel among some MacLeay river tribes, during my stay there.

Three young men, belonging to the Yarra-Bandini tribe, which was also the name of our cattle-station, (as that locality was the head-quarters of this tribe,) had descended the river in a canoe to Verge's station, which is within the limits of the boundaries of the Calliteeni or Kempsey tribe. The object they had in view, was to kill a Tryal bay native, whom the sawyers had nicknamed Cranky Tom, from his comical hilarity:—for it would appear that Cranky Tom had some time before killed one of the relations of these men in a

Cranky Tom and Dilburree.

Natives of the Yarra-hapinni Tribe.

A Fight

fight, and they now determined to revenge his death. Poor Tom, who was my earliest acquaintance among the Tryal bay natives, was stopping with his 'gin' Dilberree near Verge's, without any suspicion of treachery, when he was suddenly confronted by his enemies. Having endeavoured in vain to protect himself with his shield, he soon fell pierced with wounds, and his head was then cut off by his savage enemies, one of whom, named Henry, also took possession of the woman. This act of treachery roused the indignation of two tribes, the Kempsey or Calliteeni blacks, on whose grounds the outrage had been committed, and the Tryal bay blacks to whom the murdered man belonged. On speaking to the chief men of the Yarra-Bandini tribe, about this cowardly attack, they merely told me in reply, that Henry and the other men were "murry stupid," to act as they did, but that Cranky Tom was a "murry saucy fellow," and deserved what he had got. The Yarra-Bandini tribe were encamped, in the mean time, close to our stock-yards.

The first of their adversaries in the field, were the Kempsey blacks, who came over one afternoon, and fought the Yarra-Bandini natives at our very doors. The battle was conducted in the most fair and open manner; each party drew up in two lines, armed with spears, shields, and boomerangs, and threw spear for spear for a considerable time, before any damage was done. At length a Yarra-Bandini black was slightly wounded in the forehead;

and soon after a Kempsey native, whom the sawyers had named "Major Lovatt," was transfixed with a spear, which apparently passed through his lungs. This concluded the fight; both the hostile parties now mingled together in the most friendly way; and the Yarra-Bandini tribe was even more anxious than the other, in their endeavours to alleviate the wounds of the dying man. My partner also rendered every assistance to him, but he expired in a few minutes. By a most extraordinary revulsion of feeling, the Kempsey blacks now became furiously enraged against the Tryal bay tribe, whose cause they had just espoused so actively.

Accordingly, under the pretence that an immense flock of ducks had settled on some lagoon down the river, the Kempsey natives, who are few in number, but more conversant with the customs of the whites than the others, succeeded in persuading some cedar dealers and sawyers at that place, to lend them some muskets, which they loaded with slugs, and they then proceeded down the river in a boat. The Tryal bay blacks, who were quite taken by surprise by this unusual manœuvre, were soon worsted, and several of them were wounded by the shot, but none killed. Matters now became more complicated, for one of the Nambucca river tribes, being indignant at the treatment of their neighbours at Tryal bay, took part in the quarrel.

A week or two afterwards, being at Yarra-Bandini, a gin, who had been sent from our station on some

message, returned in a great hurry, glistening with moisture from having swam across the creek ; as she had seen the Tryal bay tribe, who were coming up to fight the natives at our place. She had scarcely bounded away from us to warn them of the approach of their enemies, when the latter appeared, marching in Indian file, having their bodies painted with red stripes, and their bark shields whitened with pipe clay and adorned with double red crosses. They advanced with a measured tramp, carrying their spears aloft at a uniform slope, with their shields on the left side. They had just arrived where we were standing, when the Yarra-Bandini blacks, having been warned by the gin of the approach of their enemies, dashed out of the adjoining brush, and throwing themselves into regular rows, five or six deep, commenced a furious dance in defiance of the other party, leaping up and down at a measured tread, whilst they beat time with their nulla-nullas and waddies, accompanying each jump with a short loud shout. As soon as their adversaries had arrived opposite to them, each party halted, whilst the chief men on both sides advanced, and commenced a most animated dialogue, occasionally threatening each other with their spears. A very old woman, whom the Tryal bay blacks had brought up with them, seemed to be particularly active in abusing and insulting the Yarra-Bandini natives, whom she railed at unceasingly in a loud screaming voice. As the Australian aborigines look upon their women as very

inferior animals to themselves, I suppose the Tryal bay tribe had brought up this scolding old lady, in order to evince the greater contempt for the other tribe; much upon the same principle, which once induced a king of France to send a defiance to an English prince by a scullion, instead of a herald, in order to insult him the more grievously.

After a long altercation the two hostile tribes mingled together, as though they were on the best terms with each other; they encamped, however, for the night, at some distance apart. Next morning the fight commenced, in which, according to the usual custom, the three natives who had been the original cause of the quarrel, stood prominently forward, exposed to the spears of the Tryal bay blacks for some time, without receiving any assistance from their companions, until one of them received a spear wound on the instep, and another on the knee. The fight then became general, but no further damage was done, as each party was equally adroit in warding off, with their shields, the missiles that were flying about. This engagement seemed to conclude the quarrel between the Yarra-Bandini and Yarra-Hapinni blacks, as the gin Dilberree, who had been carried off, was restored to her friends. It was, however, some time before the other quarrels, which had arisen from this affair, were fought out; after which a general peace had to be consolidated by solemn corroberrees, danced successively on the grounds of each of the belligerent tribes.

Although the Aborigines are in general so honourable and open in their warfare with one another, their behaviour towards the whites is very different, being often treacherous in the extreme. It frequently happens that those persons who have been most liberal and kind to the natives, are chosen as their first victims; for if a white man gives a present to a native, without stipulating for some service in return, the latter imputes the generosity of the white man to fear. Thus, the sawyers at the Nambucca, who gave the blacks a large quantity of flour, tobacco, sugar, &c. in order to propitiate them, became immediately exposed to their murderous attacks, which did not cease until the natives had received a severe lesson or two, to convince them of the superiority of the arms of the white men.

The districts near Port Phillip, where the blacks have committed the most serious outrages, are the very ones in which the salaried Protectors of Aborigines have resided. I do not know in what the duties of the Protectors consist; but no good has been derived from their appointment, as the natives in that part of Australia have been more audacious in their attacks on distant sheep-stations, than in any other districts; and on being pursued after their ravages, they have been known to jeeringly dare the whites to fire at them, as the Governor would hang any one who shoots at "blackfellows!"

"The soothing system" is no better adapted to civilize the natives of Australia, than to reclaim the

convicts at Norfolk Island; and indeed I think that all endeavours to make them adopt more settled habits will be useless, for what great inducement does the monotonous and toilsome existence of the labouring classes in civilized communities offer, to make the savage abandon his independent and careless life, diversified by the exciting occupations of hunting, fishing, fighting, and dancing.

It is not certainly from want of intelligence that the Australian Aborigines have hitherto proved so unreclaimable. The mental faculties of the Australian savage have been too much underrated, except by those authors who have had the best opportunity of witnessing their manners and customs in their purely wild state, such as Oxley, Sturt, and Mitchell, especially the latter, whose occasional remarks on the Aborigines, are full of graphic truth. I will conclude by two or three examples of the intelligence of the natives which have come under my own observation. During the time that my tents were pitched near the Nambucca, some years ago, a native arrived at my camp, unable to hold any communication with my men in the ordinary jargon, forming the medium of communication between the blacks and the whites. As I made it a rule never to allow the natives to loiter about my tents, unless they performed some slight service for me, for which I repaid them with flour or tobacco, I told my tent-keeper to give this man something to do. Accordingly, he brought out some muskets, which required

cleaning, and having unscrewed the lock of one of them, he shewed the black how to clean it with a bit of rag. This native had, no doubt, heard of guns, but had never before had one in his hands; yet, he not only cleaned the locks of the muskets, but even took a percussion gun, which my servant had brought out with the intention of cleaning it himself, and without a word being said to him on the subject, took the lock entirely to pieces, although its construction was so different to that of a flint lock, and having carefully cleaned and oiled it, he put it together again, which I am sure not one Englishman out of ten would have been able to do, if previously unacquainted with the mechanism of gun locks.

A boy, belonging to a tribe at the Manning river, who had been induced to accompany a friend of mine as far as the MacLeay, drew, with a piece of chalk, human heads and figures, kangaroos, &c. with a firm well defined outline, which few English boys of his age could have done better, unless they had had lessons in drawing.

Some natives I have seen exhibit a dexterity in carpentery, and in the use of various tools, which a white man could not acquire until he had practised with them for some time; and indeed in every thing requiring the exercise of mechanical ingenuity or dexterity, the Australian Aborigines are most apt scholars.

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Numerous as are the accounts already published of this great conflict, the information which they convey is generally of too vague and indistinct a nature to satisfy either the military man who seeks for professional instruction, or the general reader who desires to comprehend more clearly, in all its details, that gorgeous machinery, if it may so be termed, which was put in motion, regulated, and controlled by

the greatest masters of their art, who, in modern times, have been summoned forth to wield the mighty engines of destruction wherewith nation wars against nation. How just is the observation of Jomini, one of the most talented military writers of the day—"Jamais bataille ne fut plus confusément décrite que celle de Waterloo." On consulting these accounts the public glean little beyond the fact that at Waterloo the allied army stood its ground during the whole day, in defiance of the reiterated attacks by the French, until the Duke of Wellington led it forward to crown its exertions with the most splendid victory. They afford us but a faint idea of those strategical movements and combinations upon which the grand design of the campaign was based by the one party, and with which it was assailed by the other; and we seek in vain for the development of those tactical dispositions by which the skill of the commanders and the valour of the combatants were fairly tested. From the want of due consecutive arrangement in the details, and the tendency too frequently manifested to compensate for this deficiency by mere anecdotic narration, the motives by which, in the great game of war, the illustrious players are actuated, are left out of view, while circumstances which especially call forth the skill of subordinate officers in command, as also the courage, the discipline, and the prowess of particular brigades, regiments, or even minor divisions of the contending masses, are either imperfectly elucidated, or, as is often the case, unhesitatingly set aside to make way for the exploits of a few individuals whose deeds, however heroic they may be deemed, constitute but isolated fractional parts of that great sum of moral energy and physical force combined, requisite to give full effect to the application of the mental powers of the chieftains under whose guidance the armies are respectively placed. These remarks have reference, more or less, not only to the generality of the accounts of the Battle of Waterloo, with which the public have hitherto been furnished, but also to those of Quatre-Bras, Ligny, and Wavre; the first of which, brilliant as was the reflection which it cast upon the glory of the victors, became eclipsed solely by the more dazzling splendour of the greater, because more important, triumph of Waterloo. To endeavour to remedy these deficiencies, through the medium of the evidence of eye-witnesses, most willingly and liberally supplied, as well as carefully collated, examined, and, at the same time, proved, wherever practicable, by corroborative testimony—every component piece of information being made to dovetail, as it were, into its adjacent and corresponding parts—is the chief object of the present publication.

The opportunities which Captain Siborne has enjoyed of collecting the data requisite for this highly important work, have been peculiarly favourable. Having commenced his large Model under the authority of the government, he received permission to address himself to the several officers who might have it in their power to communicate valuable information; and, with a view to render such information as complete as possible, and to substantiate it by corroborative testimony, he forwarded his applications to almost every surviving Waterloo officer—not limiting his inquiries to any one particular period of the action, but extending them over the whole of the Battle of Waterloo, as also of that of Quatre-Bras, and of the entire campaign. In this manner he has succeeded in obtaining from the combined evidence of eye-witnesses a mass of extremely important matter; and when the public are informed that Captain Siborne has also been in unreserved communication with the governments of our allies in that war, concerning the operations of the troops they respectively brought into the field, it is presumed that the extraordinary advantages he possesses for a satisfactory fulfilment of his design will be at once acknowledged and appreciated.

In reverting, however, to the Model, as connected with the present history, it may not be unimportant to add that some objections were raised against the position thereon assigned to a portion of the Prussian troops. These objections induced Captain Siborne to investigate more closely the evidence he had received relative to that part of the field; and the result of such re-consideration has been a perfect conviction that an error of some importance, as regards time and situation, did exist. When the Model is again submitted to the public, which it will be very shortly, that error will no longer appear, and the circumstances under which it arose will be fully accounted for and explained in the forthcoming work.

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