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PROGRESS OF DISCOVERY IN AUSTRALIA—THE LATE EXPEDITION OF CAPTAIN STURT.

UNDER the sanction of His Excellency the Governor, Captain Sturt has published in the South Australian journals a lengthy account of his late expedition into the interior of New Holland. The leading incentive to the publication of this elaborate paper appears to have been to explain the contrast presented by the late expedition of Sir Thomas Mitchell and that of Captain Sturt, and to exhibit some of the natural causes which lead to the existence of the luxuriant country discovered by the former in the proximity of the almost impenetrable desert traversed by the latter.* The present narrative of Captain Sturt's journey commences from the starting point. On the 15th August, 1844, his party left Adelaide, and proceeded to Gawler-town, his instructions directing him to gain the meridian of Mount Arden, or that of 138°, with a view to determine whether there was any chain of mountains connected with the high lands seen by Mr. Eyre to the westward of Lake Torrens, and running into the interior from south-west to north-east. He was then ordered to push to the westward, and to make the south the constant base of his operations. He was prohibited from descending to the north coast, but it was left optional to him to fall back on Moreton Bay, if forced to the eastward. How far he accomplished his mission he leaves to the public to judge; and while regretting that he has discovered no fine country, states that he was not sent to do so, but to solve a geographical problem. His own desire and ambition were to extend his investigations over the Province of South Australia, as far as his instructions would permit, and to strike to the centre of the continent. His course into the interior was left open to him by the Secretary of State. The basin of Lake Torrens presented an insurmountable obstacle to a northern course; and, after much consideration, he started up the Darling, with a view of tracing the Williorara upwards. The expedition left Moorundee on the 21st August, under the charge of Mr. Poole, followed on the 24th by Captain Sturt, Mr. Eyre, and Tenbury, the native constable at Moorundee. The nights, in the valley of the

* At vol. vii., p. 257, and vol. viii., p. 257, we gave particulars and extracts from other despatches of Captain Sturt.—EDITOR.

Murray, were cold and frosty; but the noonday temperature delightful. The native constable—a fine intelligent man—told them that when a boy he remembered a flood on the Murray, the waters of which reached up to and covered the levels over which they were then journeying. No rain fell—the weather had been unusually fine—and the blacks said the waters came from a great distance; but they knew not whence. Captain Sturt infers from this, that the flood was independent of the ordinary and yearly flood that takes place in the Murray, and that it arose from heavy and distant rains. The periodical rise and fall of the Murray he judges to be regulated by the melting of the snow on the Australian Alps. The river commences to rise in July, and attains its maximum height, about sixteen feet above its ordinary level, in January. As it gradually rises it fills the back lagoons and creeks, replenishing them with fish of every kind, and resuscitating myriads of cray-fish, that have lain dormant under the flats. The natives of the Murray look to this periodical overflow with as much anxiety as did ever the Egyptians to the overflow of the Nile—to the first as to the last, it is the bountiful provision of a bountiful Providence.

On the 31st August, the whole party reached Lake Bonney, and on the 7th September encamped at the junction of the Rufus, having that little channel on the left, and Lake Victoria in the rear. They remained here till the 15th, during which time they had two days' heavy rain. On the 18th, they turned from the Murray northwards; the junction of the Ana-branch, or ancient channel of the Darling, with that river, being in latitude 34° 4′ 30″ south, and in longitude 141° 53′ east. On the flats of the Murray plenty of grass was found. They crossed the Ana-branch fifteen miles above its junction with the Murray, and then, passing an east course, traversed barren sandy plains separated by long lines of low scrub, chiefly composed of cyprus, eucalyptus, dumore, and fusani.

When they reached the Darling, scarcely any water was in its channel, but the grass existed to its edge, down banks as regular in their slope as a fortification, and graceful but not large trees waved over them like willows. In consequence of rumours of the hostile disposition of the natives in this quarter, the party were anxious to hurry on, but the nature of the ground over which they had to travel impeded their progress much. The flats in the immediate precincts of the river still looked beautifully verdant; but the outer flats were perfectly bare, and thinly scattered with box-trees. The soil was rotten, blistered, and full of holes—so close together that it was impossible to avoid them. These flats were more extensive than those of the Murray, and were uniformly bounded by sandy deserts, portions of which were covered with short stunted bush. Some few days after their arrival at the Darling, the waters of the Darling were so low that at one point they could nearly jump across. They observed, however, that the waters seemed to be propelled by back impulse—grass and bark were floating on it, and other indications of an approaching fresh. That evening the Darling scarcely deserved the name of a stream—on the following morning it was an impetuous and headstrong river, foaming along, and carrying everything away before it. In four days it had reached sixteen feet

above its previous level, and it continued to rise, but more gradually; muddy and sudden, it appeared to Captain Sturt that the waters might be thrown into the river through the medium of the Williorara, and that this flood might have been caused by the rains on the hills towards which they were approaching—for he could hardly imagine that they came from the basin of the Darling, from which they were at least 500 miles distant. On the 8th of October they arrived within sixteen miles of Williorara, but looked in vain for the hills seen by Sir Thomas Mitchell in that neighbourhood. The river had risen bank high, and had filled the lagoons, and some of the flats were also covered.

On the 9th, about two p.m., Mr. Poole saw a low range, with two cones, bearing northwest by north, but his view of them was very indistinct. There was also a line of gum trees extending to the north-west, and a solitary signal smoke, rising in a dark column above the horizon of that depressed interior, bore due west of him. The natives on the Darling were friendly, and were generally a handsome race. On the 10th they started on a course a little westward of north, which they changed to one of due north, from which they had a more distinct view of the range, bearing north 10° east. They descended from the higher ground to a low flat of polygonum, growing on a cold whitish clay, without a blade of grass upon it, and immediately afterwards found themselves on the banks of the Williorara, into which a strong current was running from the river, and which he found to be not a mountain stream but a back water. The floods, therefore, which had swollen the Darling, had evidently come from some more distant point. The party encamped near the mouth of the Williorara, about $2\frac{3}{4}$ miles distant from Sir Thomas Mitchell's last camp on the banks of the Darling. The Williorara, however, affording no facility for travelling, being a mere channel of communication between the river and lakes Cawndilla and Menandichi, Captain Sturt was disappointed in his hopes of making his way to the hilly country. The report of the natives as to the distant interior was very gloomy, they seemed in actual dread of it. The course, however, of the Darling from this point in long. 142° 26′, lat. 32° 26′, following it upwards was nearly north-east, therefore in spite of these discouraging reports, Captain Sturt resolved to strike for the hills as soon as he should have ascertained something more of the nature of the country between them. In proceeding up the Darling, the weather was very warm, but at Williorara it was much colder. The boiling point was 112°, the thermometer stood at 66°, and the wind south-west. Mr. Poole, who had been sent to inspect the country towards the hills, returned on the 15th, and reported that the range was about twenty-eight miles distant, extending to the north, and that from their summit he observed numerous other ranges to the north-west as a medium point, with a large body of water, amidst which they arose like islands. At this time the party were attended by about sixty natives, who behaved on the whole very well. Captain Sturt having decided to proceed to the hills, finally left the course of the Darling, and crossed the little ridge which separates the lakes of Cawndilla and Menandichi, and descended into the flats of the latter, whence they soon rose to plains of great extent, partly intersected by

brush, but for the most part open. There they passed on a course of 157° to the west of south, and the soil was a mixture of red sand and clay. The trees were low, and consisted of a new casuarina and a new species of capparis, a fine specimen of which he had previously found in the scrub near Oxley's table-land. At about nine miles they changed their course to 135° to the west of south, and continued upon it for the remainder of the day. The further they advanced the worse the country became, covered with atriplax and rhagodia, and the plains had large patches of bare red ground, the surfaces of which were baked and dry. At twenty-six miles they ascended a sand hill, from which they descended to and crossed a creek, with a dry and gravelly bed, coming from the hills, and apparently falling into the low country to the westward. After crossing the creek, they still held their course of 135° to the west of south, for a bluff in the range towards which they were rapidly approaching, and at 4⅓ miles were conducted by their guide to a well under a gum tree. This they were obliged to clean out for a scanty supply of water, the bed of the creek being still gravel and sand, with all the appearance of a mountain torrent.

Having ascended the ranges, they saw from the summit a plain to the west, surrounded by hills, but no indication of a creek or any cheering object. They then followed up a creek from the water-hole at which they were encamped, till they had risen to a level with the plain they had seen from the hills, and in spite of the expostulation of their native guide, still pursued its course, although it gradually diminished in size as it wended to the westward. A little further on they came to a beautiful pool of water, at which they encamped. At the direction of their guide they next passed a remarkable ironstone range, on which the needle deviated 43 degrees to the east of north. The iron ore laid in a ridge, and in immense blocks along the spire of the hill, bearing north and south, and was the finest and most beautiful Captain Sturt had ever seen. After turning to the eastward, they discovered that their guide was acting treacherously, and accordingly returned to their camp at the pond; but encountered a severe gale of wind, that carried away every light thing they had, and the remainder of the day was intensely cold. From their encampment they proceeded in a course of 140° to the west of south. The soil of the plain was red sand and clay, covered with salsolæ and grass in tufts.

On the 6th November they ascended a lofty hill; but the view from it was unsatisfactory, being limited by other ranges, so that they could see nothing of the country beyond. They pursued their course through a narrow and rocky defile; steep hills rising on each side, till they were stopped by some blocks of granite, traversing the head of the creek. After some vain attempts to find a pass, one was at length discovered, through which they descended to those plains, the opposite extremity of which they were never destined to reach, and on which their sojourn was as fearful an imprisonment, and as severe a trial, as it ever fell to the lot of man to bear. At the base of the ranges they turned to the north, to find the mouth of the gully, down which they had been unable to proceed, and finding water there stopped for the night. The direc-

tion of the ranges was due north and south, and as they appeared from the plains, looked like a dark wall stretched across the land. The outline of the hills were generally rounded; there were no cones, nor were the hills themselves of any great elevation. From the Rocky Gully they proceeded on a bearing of 142°, and they gradually increased their distance from the hills. They traversed stony plains, but thinly covered with salsolaceous plants, and about sunset descended to softer ground, and made for a line of gum-trees, under which they found the dry and gravelly bed of a creek. Here, after digging, they obtained water enough for themselves and cattle, and halted for the night. The precincts of the creek were both grassy and open, but soon afterwards they entered a low scrub, in breaking through which they had to cross low ridges of land crowned with pine-trees. These ridges were running nearly north-east and south-west, and were separated by narrow flats of red clay, with bare patches on them. Neither on these nor on the sandy ridges, however, was there any deficiency of grass; on the contrary, although thin, it was of luxuriant growth; during the whole of the day, however, they found no water, nor on the resumption of their journey, through twenty-five miles of a similar country, in consequence of which they put back to the creek from which they had started two days before. The remarkable feature of the country, even so low down as lat. 30° 40′ 8″ was the growth of pine-trees. The party remained at the camp for some days, a violent fall of rain taking place, and Mr. Poole was sent to see if any better prospect was afforded by taking a route nearer to the hills. On the 2nd of December he returned, having gained lat. 29° 52′, and had terminated his excursion at a chain of small lakes connected with each other by narrow sandy channels; the water in them was salt. The country, till he arrived at these lakes, was the same as has been before described, but here it became more open. It became necessary now to proceed with great caution, and explorations of the surrounding country were made, but no indications of water discovered till the 7th December, when a little creek was discovered by Mr. Flood. On the 10th, they reached the creek, which was verdant, and supplied them abundantly with water, which, however, soon began to disappear. The party were dispersed in different directions to a considerable distance, to endeavour to discover a practicable course where water could be obtained, but without success, the whole country being sandy, and covered with gloomy pine forest. It was in this dense forest, that they first experienced the excessive heat which was subsequently felt in traversing other brushes of the same kind. The thermometer was seldom under 99°, often up to 112° in the shade, and at midnight to 86° and 90°. Still, however, everything wore a green and fresh appearance, and the cereal grasses were not yet ripe. On the 28th, the party started forward. For two or three days they toiled through desolate pine brush and sandy desert, seeking water, but in vain. The cattle were completely exhausted, and two of the bullocks dropped on their way to the bank of a muddy lagoon which was discovered by Mr. Poole. On the last day of the year 1844, they once more rounded the cattle upon a plain, but it was midnight before they

could push on. The men at this time had begun to despond, but made up for it by subsequent exertions. The journey with the drays which had been left behind at the creek that had been discovered, is described as fearful. Captain Sturt says—

"An extract from my journal of that date will perhaps give the reader a better idea of our position at that time than anything I can say:—'Thursday, January 2nd. The drays reached the creek at thre this morning—both men and bullocks worn out. I had hoped that they would have got out of the pinery before sunset yesterday, but they did not. The men assure me the sand was so insufferably hot that the poor animals could not endure it. The men had the upper leather of their shoes burst as if by fire, and Lewis had his back most severely blistered. The dogs lost all the skin off the soles of their feet, and followed the team with difficulty. One of them, old Fingal, has remained behind to perish.'"

For a considerable time the party staid at the lagoon, examining the country round to endeavour to find a safe course, and a considerable portion of Captain Sturt's narrative is here devoted to a description of the country. It was during these excursions that Mr. Poole discovered a supply of water amongst the stony ridges, which alone enabled the party to keep their station for six months in the heart of the desert. On the return of the exploring party to the camp, they found that the supply of water from the creek was gone. On the 27th, the party removed to the rocky glen, where Mr. Poole had discovered the water, and encamped close by a fine serpentine sheet of water, about a quarter of a mile in length. This was the formation of the permanent encampment, and we give Captain Sturt's description of it:—

"There was not much grass in the immediate neighbourhood of the camp, but there was an abundance of feed lower down the creek, and amongst the slaty hills to the westward of us. The depot camp, in lat. 29° 40′ 14″ south, and longitude 141° 30′ east, was established on the 27th January, and the tents were not again struck until the 14th of July following, making a detention of 161 days. We had little idea, however, when we sat down in that lonely wilderness, that we were to suffer so severe a trial. Had we been so, few of us, perhaps, would have had strength of mind to have sustained it. Mr. Poole, however, had not over-estimated the value of the spot to us. There was an abundant supply of water in the glen, sheltered from the rays of the sun by high rocks, even supposing the pool at which we were encamped had run dry; but although not more than 40 feet broad, it was 17½ feet deep, and about a quarter of a mile in length. Besides this there was a lagoon, at which the cattle watered, but it was shallow, and was soon exhausted. The sources of this, to us, important creek, were to the westward of us, on large and open plains, that were elevated considerably above the desert country beyond them. In its progress to the eastward, it passed through a defile in the slaty range close to us, and at about a mile below the camp joined a much larger creek from the north, on the dry character of which I have already remarked. Independently, however, of the slaty range through which the Depot Creek passed,

we had many hills in view. Of these, the Red Hill, afterwards called Mount Poole, on which I erected a pyramid of stones, and which bore 328° from the camp, distant four miles, and the Black Hill, were the most remarkable. The rock formation of the Black Hill was horn slate, resting on a silicious rock common to the slate formation. Mount Poole rested on sandstone, the rock itself being a whiter stone, aluminous. The plains were generally bare or covered with salsolæ and atuplex, there being grass in the hollows of watercourses or on the sides of creeks only. The course of the creek was defined by gum-trees and low shrubs of acacia, and others were scattered over the ground. Not only in the creek, where the trunks of trees were lodged high in the branches of trees growing there, and the immense quantity of debris left in the creek itself, but over the whole of this region there were the marks of violent and terrific floods. The high water mark was far on the plains behind us, and when such a state of things exists, the lower country must present the appearance of a sea. It is evident, however, that these floods are very transitory, but they must, nevertheless, be sudden and dangerous; and there can be no doubt that if it had been our fate to have experienced an event of the kind, we should have seriously suffered; nor was it unfrequently that I contemplated the probability of such an occurrence in reference to the precarious ground we occupied."

Having safely encamped here, the excursions in search of water and a safe course were renewed. After a ride of thirty miles, Captain Sturt found the creek to terminate in extensive grassy plains, but before spreading over these, it had a long narrow deep channel of water, darkly shaded with trees. The plains are described as being fit for beautiful cattle stations, though occasionally they would be subjected to the inconvenience of being flooded. The natives were few in number, and timid in manner, but they did not avoid the party. "It was at this time," says Captain Sturt, "that I, myself, and my officers first felt the effects of scurvy—pains of various kinds, spongy gums, pieces of flesh hanging from the roof of the mouth, and other symptoms of that terrific and horrid disease. I knew not the cause of my suffering; but on speaking to Mr. Browne I became aware of the fact; but as I had not partaken of salt meat in any quantity, had indeed been abstemious in its use, I was at a loss to conjecture why I should have been attacked. However, so it was, that we were all three attacked, Mr. Poole being worse than either myself or Mr. Browne." With great difficulty, Captain Sturt managed to explore the country to the north as high as parallel 28°, but found no water, and nothing to break the disheartening prospect which the country they had hitherto passed through opened for their future journey. On his return to the camp, he found that Mr. Flood and Mr. Browne had discovered a waterhole in the centre of a creek, and on following it down about 28 miles, they found two fine waterholes, which the natives had but just quitted. About a quarter of a mile below these ponds, the creek spread over a large and grassy plain, surrounded on all sides by sand hills, and on the westward by scrub. The channel of the creek was entirely lost in

the plain, but they recovered it on the north-west angle, and followed it through a narrow and well-wooded valley for eight miles, when they were brought up by a bank of white clay, over which it was evident the superfluous waters fell into and inundated a beautiful and grassy plain on the other side of it; but at no place could they find water after the ponds they had left—all the holes in the creeks were hard and cracked. The heat was terrific—they could not keep their feet in the stirrups, nor was it possible to move at noon. The wind invariably blew from the east-south-east, with a deep purple haze to the west, and going round with the sun, blew hard at twelve, but moderate at sunset. The gusts of heated air were enough to wither everything, the vegetation sufficiently attesting the heat of the surface soil, since all trees were denuded of leaves near the ground, and had tops like umbrellas. In this search for water, which convinced Captain Sturt that there was none to be had within an attainable distance, he had passed into the Province of South Australia, cutting its eastern boundary about lat. 19° 3′ 30″. On the day they regained the ponds, about five in the afternoon, the thermometer stood at 133° in the shade, and in the sun at 157°. They had now been two or three months without rain, nor did there seem any prospect of it; but still there remained other points to try before they could consider themselves finally detained at the depot. Accordingly, after a day or two's rest, Captain Sturt again started with Mr. Browne to the east and north-east; but after a journey of more than 100 miles to the east, they were forced back in consequence of the total absence of water from as miserable a country as man ever traversed. It was one vast plain, after they had passed the lower water in the creek. Large bare shallow basins, and the dry beds of salt lagoons, with numerous salsolaceous productions, and no grass, were predominant features of the sterile region then between them and the Darling. The sandy ridges even were preferable to it.

On their return to the camp they found Mr. Poole very sick from scurvy, from which, however, Captain Sturt and Mr. Browne had by this time become comparatively free. On the 21st of April, the two latter gentlemen again started out to the westward, but with little better success. In this excursion they tried to make to the shores of Lake Torrens, but failed in doing so, their journey not exceeding seventy miles from the depot. The country was totally destitute of water, composed as usual of alternate narrow flats and sandy ridges; but there were no pine trees on them, the general bushes being shakea, banksia, casuarinæ, and acacia of various kinds. Captain Sturt now began to give up all hopes of being able to push on until they should have rain, and days, weeks, and months, passed away in hopeless inactivity. Mr. Poole had become a cripple, and on the 25th of April took to his bed, from which he never rose again. Their greatest comfort at this time was an under-ground room, which they had made close to the creek, and in which the temperature was eight or ten degrees cooler than anywhere else; but even there it was almost impossible to map, so quickly did the water dry in the brush. Gradually, however, they settled down, and the routine of the camp went on regularly. Gradually,

.oo, every green thing disappeared from the neighbourhood, and the cattle were reduced to eat the bushes and trees. In order to keep the men employed, they were set to raise a mound of stone on Mount Poole, little imagining that, in so doing, they were rearing his monument. During the first month of their sojourn at the depot the heat was intolerable, but the sheep throve well and fattened; but there was a stop to any growth of their wool, as well as of their hair, which became perfectly dry and crisp. The water in the creek gradually lowered, till from 17 feet it was only 2½ feet deep—and must have become entirely dried up in another month. Numerous journeys were undertaken from the depot, but all were unavailing. May and June passed away, but still no rain fell. The sky was generally clouded at the full of the moon, but that planet dispersed them with singular power, and the intense moonlight was more injurious to the vision than the fiery glare of the sun of noon-day. During their stay at the depot, the minimum cold was 24°, a point much lower than known at Adelaide; thus, then, there was a difference of 133° between the extremes of summer heat and winter cold, the former having been 157°. The mean of the thermometer during the months of December, January, and February, was 102°, 104°, 101°; the wind during these months blowing from the east-south-east in the morning, and going round with the sun. During the month of June it was arranged that Mr. Poole, with six of the men, should return home—and preparations were made for them to start. On the 13th of July denser clouds than usual loaded the sky; rain had fallen on one or two occasions, between the 16th November, 1844, and the 13th July, 1845, but never in sufficient quantities to saturate the tents, and Captain Sturt feels assured that they had had the misfortune to penetrate the desert at the commencement of one of the periodical droughts to which it must be subject. During their stay at the depot, Captain Sturt had resolved, on the resumption of his journey, to push for the north-east angle of Lake Torrens, hoping, indeed, to find it connected with some more central body of water, the early discovery of which would facilitate his future operations. Under any circumstances he would be making to the point he wished to gain—the 138th meridian, through the centre of the Province of South Australia. On the 12th July misty rain fell, and for the two following days it rained steadily. The ground became saturated—every hollow was filled, and the waters were rippling down every gully.

On the morning of the 16th July the home returning party started, Mr. Poole being unable to walk, and was accompanied the first day by Mr. Browne, who then returned to Captain Sturt, with whom he determined to prosecute the expedition. On the following day a horseman returned, bearing the melancholy news of Mr. Poole's death. His remains were brought back to the depot, where they were interred. The conduct of the home party was then given to Mr. Piesse, and they proceeded on their way. The remainder of the expedition then pursued its way through the desert. The valleys from the hills soon turned out to be plains, and on the 2nd day they were toiling over sandy ridges at ten miles a day. On the 28th, they had cleared 64

miles, and were higher up in point of latitude than Mount Hopeless. At this time they fell in with numerous parties of natives, taking the advantage of the late rains to capture the jerboa, which inhabits the ridges in thousands—one man had no less than eighty in his bag of this beautiful little animal, all of which he and his companion devoured at a single meal. On the 2nd August they passed over a terrible country, and over ridges of sand that in the distance looked like brick walls, no trees were to be seen, and but little vegetation of any kind. The country resembled the most barren neighbourhood of the sea. On the 4th they crossed a salt-water creek coming from the north, with deep holes of dark blue water as strong as brine, and a quarter of a mile from it a little creek of fresh water, the only one they had crossed in chaining 131¾ miles, the distance they had chained on the 5th—when they were suddenly stopped by the broad shallow, dry, sandy bed of a great lake—

"The bank had been gradually washed down by heavy rains, and sloped to the margin of the lake, if such it might be called. It extended southwards beyond the range of vision, but turned to the west in a northerly direction, as Mr. Eyre has given the turn to Lake Torrens. It was about twelve miles broad. The country on the other side seemed to be wooded, and beyond the wood there was a deep hollow.

"The N.W. extremity of this basin bore 283°, the southern 158°, from where we stood. The ranges I have mentioned, from the same place, bore respectively 198°, 188·40, and 182°; and a flat-topped nearer range, more to the west, 231°."

The barrenness and dreary monotony of the country around are represented as frightful. Failing in an attempt to cross the lake, Captain Sturt endeavoured to turn it, but again failed, when he returned to the camp, which was in latitude 27° 15′ south, longitude 139° 50′ east, variation 4° 50′ east. The country looked worse on their return. Having erected a stockade for the safety of the party, Captain Sturt left the camp with Mr. Browne, Mr. Flood, and two of the men with fifteen weeks' provisions in the light cart, intending to make an extensive exploration to the north-west. No rain had fallen since the 16th July, and the surface water was all gone. After travelling eighty-six miles over sandy ridges and flats, they struck a creek with a fine sheet of water in it. The creek evidently came from the north, and on its banks were two huts. On the following morning they crossed its bed, and traversed extensive plains, bounded by sand hills, and subject to inundation. Several other creeks were shortly struck, all coming from the north-east, but they were invariably lost after a short course on some extensive plain; but the existence of such creeks in such a country afforded matter of surprise. Passing the creeks, which occurred at intervals of ten or twenty miles, they ascended a confused mass of sand-hills and clay, from which they descended into a country black with samphire and salsolaceous plants, in the midst of which was the white and glittering bed of a dry salt lagoon. Crossing this, they passed through extensive grassy plains, and presently came on a small pool of water near some native huts. For a short distance there was some improvement in the general

aspect of the country, but the hopes this inspired were speedily chilled. Breaking through the wooded country they saw a wall of sand before them, and, passing it, had to toil over ridges more formidable than any they had previously met with. At twenty miles they halted in a little valley where there was grass, but no water, but the latter was found a little distance off. Their position here was in latitude 27° 4′ 11″ south, and longitude 139° 5′ 35″ east. The lofty sand ridges suddenly terminated in an immense stony plain that occupied the whole of the western horizon. The ridges jutted into it like headlands into a sea. The stony desert extended beyond the range of vision from the loftiest ridge they ascended. It was of dark brown hue, the stones being coated with oxide of iron. In the direction in which they were about to cross it, not a tree or a herb was to be seen, nor was there any object on which to take bearings to guide them over it. Far to the eastward were a few trees, but between them and the travellers the desert was herbless.

On the 27th of August they commenced their journey over the desert. The ground was covered with stones of generally equal size, similar to the parallelograms on the sides of the northern ranges; they had been rounded by attrition, and were of the same rock as those mouldering hills, and were laid smooth and even on the surface. There were but few inequalities, but the whole desert was exceedingly depressed. After traversing this desert for 170 miles, they descended to a belt of polygonum extending along the edge of the stones, and separating the region from another of a very different character, but apparently of equal extent. This was an earthy plain, almost as herbless as that they had passed. It presented the appearance of a boundless ploughed piece of land, in which the waters had settled and subsided. This singular region was intersected with little channels for draining off its water, the fall apparently being to the north-east. Again the party came to sand-ridges, preserving still the same line of bearings, and shooting up in the interior beyond the range of vision. They had already struggled over these for nearly 300 miles, from 31° to 27° of latitude, but here again they rose before them. In this part they found a creek with a little water, and the next morning passed a village of nineteen huts, of peculiar construction. The huts had evidently not been inhabited for several months. From here they crossed an earthy plain rent by solar heat, and extending about seven miles, where they found a creek with a little pool of water in it. After traversing several similar plains, they again encountered sandy doones, and suffered so severely from want of water that they feared they must put back. Turning to the north, they ran fifty miles along a continuous ridge of sand, and in lat. 25° 43′, and long. 138° 44′, came to a beautiful creek, which they followed up a considerable distance. The creek contained large but not deep pools of water, and the fall was from north to south towards the stony desert. The country was barren in the extreme. Again they got into the desert covered with apparently illimitable doones of land, presenting an aspect awful in its desolation. On this occasion they advanced to lat. 24° 40′, and long. 138°, the meridian Captain Sturt had been instructed to gain. A few days more and they would have

been in the centre of the continent; as it was, they gained the meridian of Mount Arden, but 525 miles to the north of that hill. It is not probable, therefore, that any range of mountains can exist in the direction supposed, or that the high lands seen by Mr. Eyre to the north-west of Lake Torrens extend very far into the interior in a north-easterly direction. They had followed up the desert for 500 miles, and it seemed as far as ever from terminating. They fell back on the creek, and tried the country in different directions, but to no purpose. At this point, Captain Sturt wished to send Mr. Browne, who had long been suffering severely from the scurvy, back to Adelaide, with three of the party, but Mr. Browne refused to leave him. Mr. Browne therefore remained at the creek, while Captain Sturt, with three men, started on another attempt to penetrate the desert. After travelling to the north for some days, he came upon a fine well-watered country, he fondly hoped the termination of the desert in that direction. After travelling, however, some forty miles, the sand doones again made their appearance. Riding on along one of these doones they came to a large white plain, firm in substance, from which they again came to the doones, but amidst them found a pretty lake about fifteen miles in circumference. It was very shallow—the water half salt and putrid. After exploring the country in several directions for some days, they ran along a sandy ridge which, terminating suddenly, they found they had reached the edge of the stony desert unaltered in any of its features. They ran along the desert for about twelve miles, and then along a sand-hill to the north-north-west. Before them, about ten or twelve miles distant, were some low hills covered with dark scrub; but on approaching them, they turned out to be nothing but ridges of sand, covered with stones similar to those in the desert below. Around on every side the desert stretched, except to the north-east, where the sand-hills they had passed rose above it. The weather was fearfully hot, and the gusts enough to wither every living thing. Seeing no chance of getting water, and the horses being thoroughly exhausted, they made back to the creek. After a dreadful journey, nearly all the water they had passed before being dried up, they arrived at the creek. After a little rest they proceeded to follow up the creek, and found some fine country.

With regard to the country traversed, Captain Sturt says—

"It may appear to many of my readers that this creek might have existed still farther to the eastward than the point to which I went—that is, to latitude 27° 56′, and longitude 142°, or nearly so. It may certainly exist beyond the grassy plains, but I do not think that it does. Those plains were sufficiently extensive to give birth to such a creek, when we consider the heavy character of the torrents that fall in those regions. I do not think that our knowledge of the country to the eastward favours the idea that it has a long course, but I will not assert the contrary. I describe the features of the country as I saw them, and give the best opinion my poor judgment can form of them; but, with regard to this creek, which certainly was a principal discovery, I would observe, that I do not fancy that it can be connected with any of the rivers recently discovered to the eastward of it. The largest of those rivers was aban-

doned in latitude 24° 14′, and longitude 144° 35′, 256 geographical miles from the most eastern extremity of Cooper's Creek. That river was there running to the north, Cooper's Creek being the distance I have mentioned, to the S.S.W. of it, had a westerly course. It does not, therefore, appear to me that the two can be connected, and I think that an inspection of their relative positions on the map will bear me out in this observation. Again, it will be borne in mind that I twice essayed to cross the Stony Desert, which I struck a second time more than a degree from the first point, and that there it had certainly an increased breadth, and appeared to trend gradually round to the north-east, opposite the lowest part of the Gulf of Carpentaria. The large river discovered on a recent expedition was 350 miles to the eastward of that part of the Stony Desert from which I turned the second time, and about 430 geographical miles from where I turned with Mr. Browne, and more than 550 miles from the bottom of the Gulf of Carpentaria. Whether the Stony Desert continues to any distance I cannot say, but my opinion is that it does, and that, as the lowest part of the interior, it receives all the waters falling inwards from the coast. Whether those waters are gradually lost by evaporation, or that they are carried to some still undiscovered sea, remains to be proved; but as it is difficult for others to elucidate these things, I have thought myself called upon to throw every light I can on the probable character of the interior. All I can say is, that after having traversed a desert for 400 miles, and failed to reached its northern limit, and after having found that it continued unaltered for four degrees of longitude, I cannot hope that it speedily closes in either to the east or west."

Having reached the point of the creek from which they started, and feeling the hopelessness of further researches, they returned slowly and painfully to the stockade. On their arrival there they found it was deserted, and discovered letters from Mr. Browne, informing them that the water having fallen putrid and caused dysentery among the party, he had been obliged to fall back on the old depot, seventy-two miles distant, whither they were followed by the captain and his three brave companions. On their arrival there, Captain Sturt fell ill, and lay on his stretcher a helpless cripple. The history of their return to the "Darling," when they were met by Mr. Piesse with a relief party, is one of intense suffering and anxiety.

The following are the deductions with which Captain Sturt concludes his account:—

"It only remains for me to make a few observations on the results of this expedition, the details of which have hitherto been almost personal. Such observations appear to me to be the more necessary, because the position of a recent traveller, in reference to the line I took, seems to me to be understood by very few. It would, however, have been a difficult task for me to have conveyed my own impressions to the reader, if I could not have been assisted by the accompanying diagram, in which the relative positions of myself and the Surveyor-General of New South Wales are clearly marked. It will have been observed, that on leaving the Williorara, I crossed a range of mountains, if such those

we crossed may be termed, the breadth of which, at that place, was about twenty-five miles. From these mountains we descended at once into that inhospitable region from which we never escaped. The principal features of the interior are the sandy ridges or doones, by which it is traversed from south to north, and the great Stony Desert. That the whole region traversed was only submerged, there cannot, I think, be a doubt. Its salsolaceous productions, its sea-level, its want of trees of any size or growth, excepting on the banks of the creeks, sufficiently attest this; but whether the sandy ridges were thrown up simultaneously, or were successively formed by the joint effect of winds and a gradually retiring sea, or of winds alone, it is impossible to say. When I first crossed the Stony Desert, it appeared to me to have been the bed of a former current; and I felt satisfied that that conclusion was just when I crossed it at another point more than a degree from the first, and noticed the strong proof it exhibited of waters having at one time or other swept over it with irresistible fury. When we first observed the sandy doones, their general direction was north-east by north, but they gradually came round to, and settled at eighteen degrees to the west of north, or nearly north-north-west, and preserved that bearing with undeviating regularity for more than 300 miles. They occasionally ran for ninety miles without any break in them, nor am I aware that any disturbance occurred in them without some obvious cause. They occurred in lines rising parallel to each other, at greater or less distances apart, and were divided from each other by long narrow flats. If these remarkable accumulations of sand were raised by winds, they must have been the prevailing winds, and their present form would indicate such an origin; but there was very little difference in their ascent on either side, although, generally speaking, their faces were more abrupt to the east than to the west, but not more than the known prevalence of south-west winds would account for. That the Stony Desert is the lowest part of the interior which the expedition traversed, was demonstrated from the fall of waters being from the north after we had crossed it. But, if I except Cooper's Creek, the fall of which was to the north-west, although a minor branch of it inundated the country to the west, we had no direct proof of any fall of waters into the Stony Desert from the south. All the creeks we saw fell short of it; and it was in itself so extremely level, that it was impossible to determine the inclination, or rather the declination, of its bed. As far as I could judge of it from where I left it, the Stony Desert appeared to extend to the north-east, with an increased breadth; and I am led to conclude that it stretches up nearly to the Gulf of Carpentaria, and receives the waters of every river that has strength to reach it. But it is the character of the streams of this continent (its inland streams, I mean), to terminate in marshes, or to exhaust themselves by spreading over some grassy level or other. I have found, too, in the course of my experience, that its creeks rise as suddenly as they terminate; and that a concavity of any size is sufficient in this country, where the rains occasionally descend in torrents, to accumulate waters, the weight and impetus of which would be sufficient to cut out channels of such size as would justify the belief that it was

a river; and although I will not take upon myself to say that it does not exist beyond the boundless plains to which I traced it up, I think that Cooper's Creek has such an origin. If that creek were nearer, it would be a most valuable feature in the interior; as it is, it is worthless."

REPORT ON THE GEOLOGY OF PRINCE EDWARD ISLAND.

BY ABRAHAM GESNER, ESQ. F.G.S.

[We had the pleasure of publishing an interesting account of this island and its resources, by Dr. Gesner, in vol. 11, p. 70, and the following interesting report of his recent official survey, which the Doctor was employed to make by the Government, has been some time in our hands, but we have hitherto not been able to make room for it.]—EDITOR.

The objects of a Geological Survey are to discover and examine, and thereby bring into operation, so far as may be practicable, the mineral resources of a country. The advantages such inquiries offer to mining are manifest, as they supply the proper objects of that branch of industry, and the elements of manufacture.

Iron enters into almost every mechanical work of civilised life. Coal is scarcely of less importance, as affording fuel for the multifarious operations of manufacture, steam navigation, railway transportation, and domestic use. Besides these, copper, tin, lead, zinc, manganese, and other metals are of vast utility, and other chemical compounds of the metals are extensively employed in medicine, chemistry, and other sciences.

Architecture derives from geology the discovery of granite, porphyry, marble, freestone, slate, &c., and it is only by a knowledge of its mineral character, that the durability of any rock can be determined. Salt, clay, mineral and thermal springs, with a variety of other objects, are also recognized by such surveys, which are devoted to all the resources supplied by the mineral kingdom.

A geological survey, aided by mineralogy and chemistry, affords to agriculture the most valuable aid. It discovers and applies lime, marl, peat, alkaline earths, alluviums, and various other substances that are capable of improving the soil; and by the analysis of the soils themselves, which have been derived from the solid rocks, the means of increasing their productiveness is clearly indicated.

The common objects of nature, and such as the early inhabitants of a new country soon become acquainted with, afford the first objects of commerce, while mineral resources, from being concealed in the earth, and consequently more difficult to discover, are frequently overlooked, and their manufacture is reserved for a more advanced state of science, or when minerals are accidentally found, their properties are frequently

unknown to their discoverers, who are sometimes led into injudicious and ruinous speculations. The inquiry under consideration is calculated to prevent such evils; and experience has proved that by restraining rash enterprise in the expensive search for minerals, geological surveys have been of great advantage wherever they have been made.

There are still many benefits that might be mentioned, as being the result of a careful examination of the rocky masses of any country, among these may be reckoned the contributions made to a splendid modern science, and that kind of topographical knowledge that facilitates the progress of husbandry, and the establishment of manufactures. By collecting the valuable minerals and the soils of any district, and submitting them to a proper investigation, assistance is given to industry, which may then be directed into its legitimate and proper channels. And should any tract of country be found not to contain any valuable deposits of fuel, or ores, a knowledge of the fact is desirable as being calculated to correct ungrounded hope, and check fruitless researches.

The practical course to be pursued in a geological *reconnoissance* will vary in different places, being influenced by the nature of the country, and a variety of other circumstances which can only be understood by the practical geologist. In districts of a mineral character continued labour is often required, while in tracts known to be composed of unproductive strata, such labour is unnecessary. When the opposite sides of an island, or a peninsula, are found to present strata similar in their lithological character, course and inclination, and sections have been taken across the intervening country, the actual inspection of each square acre would be useless. In other situations, or where there are favourable indications of coal or ores, the inspection of the soils, rocks, springs, &c., is rendered imperfectly necessary.

During the survey of the island, I have endeavoured to visit every locality to which I was directed by the inhabitants, when there was a hope of making any useful discovery; yet, I may not have been always successful in convincing even well informed persons in other matters, that their belief in the existence of minerals at certain places was opposed to well established facts in geology; indeed, during a period of many years spent in this kind of public service, I have found the most painful part of my duty to consist in withholding the appropriation of the public funds from the curiosity, or misguided enterprise of well meaning persons, who often hope to discover some valuable mineral where nature has withheld it.

The geological survey of Prince Edward Island has been completed, and if the Province has not been favoured by Providence by any very rich deposits of fuel, or the metals, it is presumed that the benefits conferred upon its agriculture, will amply repay the small sum expended in the undertaking.

It had been proposed to construct boring apparatus in order to penetrate the deeper strata of the island, but it would have been injudicious to commence such operations without some previous acquaintance with the rocks, and the expense of boring to any considerable depth would of itself have exceeded the whole sum granted for the survey. A number of

minerals, soils, and other substances have been brought in by the inhabitants: all these have been carefully examined, and the results communicated. A collection of the valuable rocks, minerals, &c., has been made and deposited in the library of the Legislature, a catalogue of them is appended to this report, and the whole is respectfully submitted to the consideration of your Excellency, and the Legislative bodies of the Province.

Prince Edward Island is situated on the south side of the Gulf of St. Lawrence. It is separated from Nova Scotia and New Brunswick by a channel varying from ten to forty miles in breadth, called Northumberland Strait. The island is in the form of a crescent, stretching from the north-west to the south-east; its concave side being presented to the gulf, and its convex coast to the main land. The principal headlands, North Cape and East Point, extend into the gulf: the former is in latitude 47° 7′, and the latter in 46° 30′ north; the longitude is between 62° and 64° 30′ west. Its greatest length is about 130 miles, and the breadth 36 miles; but from the depth of its bays, inlets and indentations, its breadth is very variable, and the tide flows within six or seven miles of the most inland places. From East Point, a part of the western coast of Cape Breton is distinctly visible, at a distance of ten or twelve leagues, and in clear weather the Magdalen Islands may also be seen to the east. The tides rise from four to six feet; but they are much influenced by certain winds, and at the principal headlands there are frequently rapid currents.

The island is divided into three counties, namely, King's County, Queen's County, and Prince County. According to the original surveys, it contains 1,365,400 acres. The excellent surveys of Captain Bayfield, when completed and published, will afford much valuable information in regard to the geography and navigation of the island and the surrounding coasts.

The general physical features of the island have little of the bold and striking character observable on the northern shores of the gulf; they rather resemble those of the low lands on the neighbouring coast of New Brunswick. There are no mountains, and the highest hills do not exceed 300 feet in altitude. It is true there are ridges of moderately elevated land extending through the central portions of the island, and between Tryon river and New London, the hills have steep escarpments, and being separated by deep ravines and river channels, the aspect of a wide distance is mountainous, notwithstanding the lands are not high. There is also a chain of hills beginning at Lot 48 and at the head of Hillsborough river, and running along the rear of the shore settlements on Lot 49. Farther east, the land slopes very gradually down to the sea. The country between Charlotte-town and Bedeque, may be said to be hilly; but in no part of the island are there any eminences to impede the progress of cultivation. The highest hills have fine slopes, and most frequently they are bounded by valleys gently inclining to their centre, and which secure the perfect draining of the soil. Northward of Egmont and Richmond Bays, the country is flat, and the streams are sluggish, the central and oblique ridges of land having disappeared.

The chief part of the island is beautifully variegated with hill and valley, and numerous small bays, rivers, and creeks, lakes and lagoons greatly contribute to the beauty of the scenery, which, although not lofty and majestic, is peculiarly interesting. The entire surface is abundantly supplied with springs and rivulets of the purest fresh water. Descending from the more elevated ridges of land, numerous streams fall in opposite directions, and although in a low country, these afford less power to propel machinery than in higher districts; they are extensively employed in working flour and saw-mills, carding-mills, &c. The mouths of almost all the rivers and creeks are skirted by small tracts of salt marsh, deposits of marine alluvium, shells and plants. Along the eastern shores of the island there are extensive collections of drift and blown sand, These moveable deposits are often thrown up into picturesque mounds, and by being stretched across the mouths of the bays and rivers, they form safe harbours and tranquil lagoons. The channels through the sand are sometimes intricate, and the shifting nature of the shingle renders them liable to annual changes. The harbours of St. Peter's, Savage, Tracadie, Rustico, Grenville Bay, Richmond Bay and Cascumpec, are chiefly formed by belts of sand that bid defiance to the fury of the waves. The sand is occasionally drifted upon cultivated fields, and threatens to drive the farmer away from the shore. Those accumulations are scarcely to be seen on the west side of the island, which is protected in some degree from the violence of the sea by its proximity to the main land.

Peat bogs are very numerous, although few of them are of any great extent. The largest and most valuable deposit of peat on the island is on the south side of Cascumpec harbour. It contains a buried forest, and, as the quality of the peat is very superior, it will, in the course of time, be valuable for fuel.

The whole surface of Prince Edward Island has been covered with forests of beech, birches, maples, poplars, spruce, fir, hemlock, larch, and cedar. Great inroads have been made in these forests by the progress of cultivation and the lumbermen who fell the trees for exportation and ship-building. Fires have also been very destructive, and much of the primeval wood has been destroyed by its ravages; but, as trees spring up spontaneously and in great abundance, with care and foresight there is little danger of a scarcity of fuel for a long period to come. Almost the entire area is capable of successful cultivation, and in no part of British America can a soil be found that is more congenial to wheat and other kinds of grain.

The facility by which roads can be constructed is highly important, and will continue to promote the settlement of waste lands. In general the surface is even: the rocks are covered by a thick deposit of diluvial sand and gravel, intermixed with small boulders; road materials are therefore abundant, yet, there are beds of clay and occasionally light sand that impede travelling.

The configuration of the coasts is very favourable to commerce and the prosecution of the valuable fisheries that everywhere abound—Hillsborough, Cardigan, Richmond, and Cascumpec Bays, are spacious and

safe harbours. Besides these the shores are indented with lesser inlets, rivers, and coves, which afford abundant shelter for vessels employed in fishing and the coasting trade, and also sites for ship-building.

From these brief remarks I proceed to a detailed account of the exploration, and the examinations that relate to the geology, mineralogy, and agriculture of the island.

TOPOGRAPHICAL GEOLOGY.

Hillsborough Bay is an expanded sheet of water, situated between St. Peter's Island and Point Prim. It embraces three lesser bays, and receives a number of rivers. Of the latter, Hillsborough, York, and Elliot, or North River, are the most important. These, when united, form the Harbour of Charlotte-town, the capital of the island, which stands upon the extremity of a peninsula at the junction of these three streams. At this place the survey was commenced, and the descriptions will be given in the order in which they were made.

The rocks are most advantageously examined in this quarter at the entrance of the harbour, which is only half a mile wide. They here present perpendicular cliffs from ten to twenty feet in height; they are frequently undermined by the waves and currents, and are sometimes seen in heaps of *debris* that have fallen on the beaches. All these rocks belong to an extensive group of red sandstones, that form the basis of the island, and also appear on the neighbouring coasts of Nova Scotia and New Brunswick. At the mouth of the harbour they consist of brick-red sandstones, micaceous sandstones, gray sandstones, marly clay, and red shales. The general direction of the strata is east and west, and the dip is from ten to fifteen degrees north. The strata are covered by *debris* from those rocks, sometimes to the depth of twenty feet. The soil is also red, and frequently underlaid by a subsoil of stiff red clay.

The east, north, and west rivers, were explored by the aid of Indians and a large canoe. The shores are seldom bounded by cliffs, but descend gradually to the water, being frequently skirted by tracts of peaty ground, salt marsh, and a mixed alluvium; the rocks are similar to those above mentioned; and a section taken near the Indian encampment, at the mouth of the west river, corresponded with others taken several miles farther westward. Reposing directly upon the rocks, there are frequently thick deposits of clay. One of these occurs opposite the town, near the Ferry Wharf, and on the property of Mrs. Desbrisay, and is very favourably situated for an extensive manufacture of bricks. In this district, and at many other places, a black porous sandstone, containing lignite, was observed; from its colour, and the presence of lignite, it has been supposed by some to be an indication of coal, but it seldom accompanies that important mineral.

Viewed from the signal station, or either of the old French forts at the entrance of the harbour, Charlotte-town, and its surrounding scenery, are very beautiful; the shores, in every direction, are cultivated, and tracts of native forest are interspersed with fine fields and spacious farmhouses; with these, a number of ships upon the stocks afford a peculiar contrast. In approaching the town, the residence of the Governor, the Asylum,

Roman Catholic College, and provincial buildings, are striking objects. The buildings in general are more in the English style than is always seen in British America, and the wide streets and open squares contribute much to the comfort and health of the inhabitants.

Outside of the harbour, eastward, the cliffs are from thirty to forty feet high, or thus—

Diluvium	14 feet
Red sandstone	10 ,,
Conglomerate limestone	4 ,,
Red and chocolate sandstones	8 ,,
Total	36

From a prevailing opinion that limestone did not exist upon the island, and its importance in an agricultural point of view, it will be necessary to describe the varieties of that rock and the several localities where it may be procured, with some degree of minuteness. Conglomerate limestone occurs near the entrance of Charlotte-town Harbour both eastward and westward of the Blockhouse. At the before-mentioned cliff it forms a strata between the sandstones. It resembles the common conglomerate of the coal group, being apparently a collection of small pebbles cemented together; but, instead of quartzose or flinty pebbles, the nodules of the limestone and the cementing matter contain carbonate of lime. A piece of this rock, of medium purity, yielded, of 100 parts—

Carbonate of lime	68
Silicious residuum	44
	112

The limestone at this place is therefore sufficiently pure for the purposes of agriculture, but its situation is unfavourable for quarrying any great quantity. A thin stratum of white and compact limestone appears at Bellevue, on the farm of Mr. Charles Haszard. At Lobster Point the strata are again seen in a bold cliff, and dipping N.N.E. at an angle of 4°. From the soil downwards to low-water mark, they are as follows:—

Diluvium	6 feet
Red sandstone	10 ,,
Red shale	5 ,,
Red sandstone	5 ,,
Red marly clay	5 ,,
Sandstone	6 ,,
	37

A similar section was taken between Observation Cove and Salutation Point, westward of the Narrows. From Lobster Point to Gallows Point the shore is low, and the mouths of the rivers and creeks are bordered by tracts of marsh, and the shores of the bay are lined with sandy beaches. Tea-hill, an eminence in a ridge of elevated land already noticed, discloses at several places rocks similar to those just named. Between the hill and Orwell Bay, and embracing the fronts of Lots 49 and 50, a large tract occupied by flourishing villages and bordered by

marshes, is very low; much of the soil has been improved by the alluvium brought down by small streams that descend from the higher grounds. Marsh alluvium, or marsh mud and peat are abundant, and may be cheaply applied as compost manure.

Governor's Island, in Hillsborough Bay, is situated about five miles from the main land of which it once formed a part, the intervening land having been removed by the operations of the sea. At low tides the separating channels are still very narrow and shallow. The island contains upwards of 190 acres of excellent soil, a part of which is still covered by the original forest. On my first visit to this island, I accompanied a number of gentlemen from Charlotte-town who were much interested in the discovery of limestone. It was afterwards carefully examined on account of pieces of copper ore that had been found upon its shores.

The rocks of Governor's Island are different in their character from those just noticed, and from a few fossils contained in them, they appear to belong to the coal-field of the opposite coast. They are compact gray sandstones, conglomerate, red and blue shales, marls, and limestones. From the southern part of the island a long reef extends outwards into the bay. This reef consists chiefly of coarse sandstones and conglomerates, and limestone conglomerate: the latter had been previously noticed by William Douse, Esq. The quantity of lime it contains is variable, yet in general it is sufficient to render it capable of being calcined and beneficially applied to soils. It may be readily quarried after the tide has receded from the reef.

Gray sandstones form the west point of the island, where several strata may be found that are useful for building purposes: by being exposed to the weather the rocks will harden, and, no doubt, prove durable. With these beds there is a stratum of white marl, three and a half feet in thickness, reposing on a layer of red marl, two and a half feet in thickness. These marls contain upwards of 60 per cent. of carbonate of lime, and will be found very useful in renovating worn-out soils: they may be applied either in a burnt or unburnt state. These marls and sandstones have been broken by a fault—one division of them having been uplifted eight feet, whereby evidence is afforded that the island has been under the influence of powerful terrestrial disturbance.

Pieces of copper ore had been found on the north side of Governor's Island. Upon examination I found that this ore occurred between two horizontal strata of coarse gray sandstone, which rock is frequently stained by the green carbonate of copper. By making narrow excavations, the ore was traced to a distance of 40 feet, but it thinned out in all directions, and afforded no evidence of the existence of any metallic vein. Upwards of 20 pounds of the ore was obtained—the best samples contain 40 per cent. of pure copper.

The site of the ore was once occupied by a tree which has been fossiled by copper, and the vegetable texture of the wood can still be traced in the compact cupreous masses. Similar ore was found a few years ago at Bathurst, N.B. Mining operations were commenced, but, after an immense fossil tree, mineralised by copper, had been removed, the mine was exhausted. Copper ore occurs under similar circumstances

at Carriboo, near Pictou, and other places along the coasts of the main land; and I have observed that fossil trees of the coal field there are sometimes mineralised by copper, iron, sulphate of barytes and carbonate of lime; but they are not evidences of the presence of workable veins of ore. I cannot, therefore, recommend the sinking of a shaft, or that boring should be commenced at Governor's Island.

The next place visited was Orwell, or, as it is more commonly called, Gallows Point. This is a small peninsula between Pownal Bay and Orwell Bay. At its western extremity it is composed of rocks belonging to a coal formation—they are coarse and fine micaceous sandstones, conglomerates, red, white, and blue shales, fire clay, and blue compact, and conglomerate limestones. The general direction of the strata is N.N.E. and the dip E.S.E. 8 deg., but both are very variable, and the beds have evidently been much disturbed—at one place a fault of four feet was observed. These rocks form a low indented cliff upon the shore, being covered by six feet of diluvium. The breadth of the whole series upon the shore is about a mile, and it is overlaid by the red sandstones of Orwell Bay which rest upon its strata unconformably. Some of the gray sandstones are fine-grained and compact; they could be readily cut and would be durable, yet they are not equal in beauty to the freestones of the coal field of Nova Scotia. The shales are rapidly wearing away by the operations of the sea, and the fire clay has been mistaken for marl.

Near the Point, and on the farm of Mr. Tweedie, a conglomerate limestone, like that of Governor's Island, appears near high-water mark, and thin strata of that rock occur in the cliff. This limestone also appears on the farms of Mr. Young and Mr. Mutch, where it gradually rises to the surface and becomes a compact blue rock, in a stratum from four to six feet in thickness. It is here well situated for being quarried, and the limestone is of a good quality. Kilns may be erected upon the spot, and the lime heretofore supplied from Nova Scotia and New Brunswick may be obtained upon the island.

The sandstones and conglomerates of the Point contain the remains of trees and other plants characteristic of the coal measures. The trees are all prostrate in and between the strata; the original bark has been changed into coal and the woody parts of the trunks are now seen in masses of sandstone, iron ore, or sulphate of barytes: in the latter the vegetable fibre still remains distinct. So far as any analogy can be traced between them and the plants of the present period, they were coniferous, or belonged to the fir tribe; still they are quite different from any of the trees now growing upon the island. Calamites, and other plants of the carconiferous period are also found, and the remains of their leaves are widely scattered in the rocks. I also obtained the *stigmaria ficoides*, which so frequently accompanies coal, but that fossil occurs rarely at the above locality. A very thin seam of coal was found in the face of the cliff, in which there is also a small quantity of the sulphate of barytes associated with iron ore.

The rocks of this imperfect coal field were traced eastward into the country upwards of four miles, where they seem to terminate, or they are succeeded by the red sandstones or marls. From all the facts taken

together, it appears very evident that they form one of the extreme points of the great coal fields of Nova Scotia and New Brunswick, which I have recently ascertained to be united and form one continuous district. A part of that district is situated beneath. Northumberland Strait, and a wedge-shaped tract, a mile in width, enters Prince Edward Island, appearing at Governor's Island and Orwell Bay. Notwithstanding this tract belongs to the great provincial coal field, and which embraces an area of 12,000 square miles, from its situation and the nature of its rocks and fossils, I am of the opinion that it is unproductive, and does not contain any valuable strata of coal.

At the extremity of Gallows Point, and opposite a low tract of peaty ground, there is a submerged forest: upwards of three acres are occupied by stumps and roots of the spruce, fir, and hemlock, which are covered by every tide, being from four to eight feet below high-water mark. It is certain that these trees grew upon the spot where they are now seen, as their roots and the soil that nourished them are all present: their trunks have been broken down by the ice, and at low water the tract resembles the clearing of the new settler. In this instance the barrier of a peat swamp might have been broken by the ocean—the soil drained, and consequently rendered more compact, so as to fall beneath the common sea-level—or there might have been a land slip, by which the trees growing upon the bog were moved with the general mass into and beneath the water. But, from a variety of facts that will be noticed hereafter, it is more probable that there has been a submergence of the land itself, of which there are proofs in different parts of the island.

Orwell Bay is a good harbour, and the small rivers emptying into it afford many facilities for shipbuilding. Its shores were first settled by the French Acadians. The rocks of the coal formation are succeeded by the red sandstones, which on the south side of the bay form perpendicular cliffs from 36 to 70 feet high. The strata run east and west, with a general dip south of 15°; they are coarse and fine red sandstones, red shales and marly clay.

At Point Prim, and thence to Flat River, Belle Creek, and Wood Islands, the coast is low, and often bordered by shingle beaches. The above rocks prevail in the interior of Lots 49, 50, and 57. Near the lighthouse, at the Point, they incline to the northward. Peat swamps are numerous. The soil, having resulted from the disintegration of the rocks, is red; still there are small patches of white sand, the fertility of which might be much improved from the abundant supplies of marsh and muscle mud situated along the sides of the rivers, creeks, and inlets.

Southward of the Wood Islands, and at Burnt Woods, the cliffs of sandstone and red marl will average 35 feet in height. The direction of the strata is E, 32° S., dip. N. 30°, E. 10°. From Burnt Woods to Murray Harbour a rough road has been opened, passing through White Sands, Little Sands, and Guernsey Cove; and, except where it has been cleared by a body of settlers from the highlands of Scotland, the chief part of it is properly called Burnt Woods, and is covered with charred stumps and windfalls. Near the residence of Mr. W. le Lacheur small quantities of manganese ore were seen in the soil. Near Bear Cape

there is a collection of peat exposed to the sea; a similar bog is also seen near Benjamin Graham's farm, Lot 63.

Murray Harbour, with its narrow mouth, is studded with pretty islands. Its shores are thinly settled, and, notwithstanding it is an excellent fishing station, the inhabitants do not appear to be thrifty; from them a boat could not be procured to explore the adjacent shores. At a short distance from the coast the surface is covered by the native wilderness; the soil, although apparently light, produces good crops. Notwithstanding the fires have committed great ravages among the timber, the principal streams are occupied by saw-mills, from which considerable lumber is exported. Both on the shores, and remote from them, the red sandstones prevail; and excepting small collections of bog, iron ore, and the black oxide of manganese, no minerals were found upon a large tract. The shore between Murray Harbour and Panmure Island presents a series of low cliffs, and there are no indentations that offer security to boats in unfavourable winds.

George-town Harbour, or Cardigan Bay, in King's County, is a beautiful sheet of water, and is a safe, commodious, and very accessible harbour for fleets of the largest ships—the tide rises about six feet; it receives Cardigan, Brudenell, and Montague rivers, which are navigable some distance from their mouths, where they are skirted by fine farms. The lands of Dr. Kaye, a gentleman of science, at Brudenell Point, and those of Mr. Wightman and Messrs. Aitken are well cultivated. A number of ships are built and laden annually at Three Rivers, as the place is frequently called, and there is a considerable export of timber to the Mother-country, and of agricultural produce to the neighbouring Provinces from this quarter of the island. The harbour and coast frequently abound in mackerel and other kinds of fish, few of which are taken in comparison with their number. From the boldness of the shores large ships may lay afloat within a few fathoms of the land, an advantage scarcely possessed by any other harbour of the island except Cascumpec. The encroachments of the sea have been rendered very manifest here by the washing away of a grave-yard opposite the town, in which many of the early inhabitants of the place were interred. In consequence of the rapid transportation of the earth by the waves and currents, the descendants of those persons have been under the necessity of removing their mortal remains farther from the bay.

Panmure Island, situated at the entrance of the harbour, contains 800 acres of excellent soil. I was aided in its examination by Dr. Kaye and Hugh Macdonald, Esq., to whom I am also indebted for assistance in the examination of other places. Some of the sandstones here are quite calcareous, and are stratified with thin beds of conglomerate limestone. Panmure basin abounds in muscle-beds, which, by proper management, would supply an immense quantity of compact manure to the farmers surrounding the bay.

George-town is situated at the termination of the peninsula, between Cardigan and Brudenell rivers; it is yet in its infancy, but its proximity to excellent fisheries and the advantages of its situation for commerce, will, no doubt, render it hereafter a place of much importance.

The sandstones, shales, and occasionally the conglomerates already noticed, appear in the banks of the streams, and they were observed at several places at a distance from the shore where they were not covered by the red diluvial *detritus*. With those rocks there occurs a reddish-gray compact sandstone that may be quarried conveniently in the banks of the rivers and creeks: it appears at the mills of Mr. Philip Bears and other places on the Montague River. It is a durable freestone that will bear the operations of the chisel. A coarser variety of this rock is employed for millstones to grind oats.

Upon the road from Montague River around to George-town there are but few settlers; the soil at many places is sandy, and some extensive gravelly beds are covered by beautiful forests of hard wood. The rocks were examined near the head of Cardigan River, where they are not covered by diluvium; and, taking the direction of the strata, I proceeded across the country to the head of St. Peter's Bay, but no important change in their character was observed in a distance of fourteen miles. The lands adjoining the road are occupied by a few poor English, Scotch, and Irish settlers. Much of the soil consists of fine white sand: small peat bogs and swamps are very common. The land between St. Peter's and Fortune Bay are of a similar kind, and extensive tracts remain in a wilderness state.

Returning again to the southern coast, the shore between Panmure Island and Fortune Bay presents nothing of any geological importance, the rocks, wherever they appear, being similar to those already described. Boughton and Howe Bays are deep indentations, and well adapted for fishing stations. Little River is also a good harbour, and several ships are built annually upon its shores. Agriculture has advanced rapidly in this quarter during the past few years, and a thin but industrious population is rapidly improving the face of the country.

I was accompanied by William Underhay, Esq., to the farm of Mrs. Dingwell, on the west side of Bank's Pond, Fortune Bay. Indications of ore had been observed at this place. Upon examination, it was found to be bog iron ore, and the black oxide or manganese. These ores occur in a low piece of ground directly beneath the soil. It is probable that several tons of the manganese might be collected on the above farm; but, from being mixed with the iron, its value is much diminished. The quantity of iron ore is insufficient for the objects of mining and smelting.

Rollo and Colville Bays are convenient harbours, and the populous villages of the French add much to the beauty of the scenery. The rocks were carefully examined at a number of places, and the same strata that occur farther westward also appear here, and extend to East Point, lying nearly at the same levels. Small quantities of the ore of manganese were observed at several localities, and many of the bogs contain the hydrate of iron. On the east side of Colville Bay the strata of sandstones, shales, and conglomerates are nearly horizontal, or they may be said to be waved, dipping in different directions at angles of a few degrees. There are several fishing establishments in this quarter, the most extensive of which is that owned by Mr. Joseph Knight, at Souris. This shore was evidently inhabited in former days by the native Indians,

and, from the character of their relics, they appear to have been Micmacs, the descendants of whom are still upon the island. These relics consist of axes, spears, and arrow points, and rude pots made of stone; barbed fish-bones, which they employed in fishing, are also found. Some of the arrow heads are made of Labrador felspar, agates, hornstone, and jasper. The felspar is identical with that found at Labrador; the agates are like those of the Bay of Fundy, and, as none of these minerals have been found *in situ* on the island, it is very probable that the pieces used by the Indians were brought from those places. Alexander Leslie, Esq., of Souris, has made a fine collection of these relics.

Having obtained the courses and observed the principal characters of the rocks upon these shores, I crossed the Point on two different times, and, by the aid of a boat, examined the north coast. The distance across Lot 45 is only eight miles. From East Point to the entrance of St. Peter's Bay, a distance of nearly forty miles, the coast is straight, and not indented by a single river-mouth or harbour. Surveyor's Inlet, near the Point, scarcely affords shelter for boats. The coast is very level and the main road passes through a chain of farms that front the shore. The central portion of this peninsula is uncleared. The shore is bounded by a series of perpendicular and overhanging cliffs, which are notched only at those places where the rocks descend into the sea.

Near East Point the cliffs are low, but between Lot 44 and St. Peter's Bay, the coast is bold, and the cliffs are from 50 to 75 feet high. Against these natural precipices the sea dashes with great fury, and from the yielding nature of the rocks the dilapidation of the coast is very rapid. Softened by meteoric agents, and expanded by the frosts of winter, immense masses fall in the spring, and the shore is covered by *debris*, which is soon broken up and removed by the waves, the sand being thrown inwards upon the land by gales of wind. Most of the strata on this shore are similar to those of the opposite coast—indeed they are the same strata continued across the island; but, from a greater elevation of the land, a greater number of them are exposed than on the southern side of the peninsula: they consist of coarse and fine-grained red sandstones, conglomerates, red and blue shales, with streaks of white limestone, red marl, and occasionally red conglomerate limestone like that near the entrance of Charlotte-town harbour. Reposing upon these beds there is a deposit of diluvial sand, gravel, and clay, varying from 10 to 20 feet in thickness.

The following section was taken in front of Lot 42 :—

	Descending.
Diluvium	13 feet
Fine red sandstone	11 ,,
Red shales, with their laminæ of white limestone	7 ,,
Red marly clay	8 ,,
Red sandstones	4 ,,
Coarse red sandstones	8 ,,
Conglomerate	12 ,,
Total	63

Small quantities of red conglomerate limestone may be obtained on this shore; but as the rock is situated beneath thick superincumbent strata, the expense of quarrying would far exceed its profits; the layers of rock are nearly horizontal, and do not appear to have been disturbed since they were originally deposited. Two trap dikes, neither of which exceed a foot in thickness, were seen on this part of the shore. They are evidences of the former existence of volcanic action in this quarter.

Many of the fine fields of the fronts of these Eastern Lots have been injured by the drift sand that is annually thrown upon them. This result would have been effectually prevented if a broad row of native trees had been spared and permitted to grow along the summits of the cliffs.

St. Peter's Bay is a narrow but deep indentation, and a safe harbour. Its mouth is protected by a chain of sandhills, having a narrow channel between them that is capable of admitting large ships at certain times of tides. These sandhills resemble the cones of extinct volcanoes: they are liable to constant change, and were they not covered with bent grass, they would be much more liable to drift away before the winds than they are at present. Near the mouth of the bay, a forest of hard wood, consisting of beech, birch, and maple, has been buried by the drifting sands: the ancient channel of the river has been filled up; and the wharves built by the French, who were the first civilised inhabitants, have all been buried in the shifting shingle. An opening formed by the sea during a gale, exposed a thick bed of oyster-shells and a number of Indian relics.

The scenery of this bay, with the surrounding country and its fine farms, is very beautiful. Ship-building forms a part of the employment of the inhabitants, and at the mouth of the Morell River, a deep and sluggish stream, there are large ship yards and timber ponds. This bay has afforded one of the best salmon fisheries of the island. Large tracts of land upon Lots 39, 40, and 41, have been overrun by fires from time to time; sometimes several hundreds of acres are seen in a single block covered by ferns, laurel, and stunted bushes; such tracts are called "barrens," and are generally supposed to be sterile. The soil is, nevertheless, good, and its present state and desolate appearance have resulted from fires that have swept over the surface. In several instances I have observed excellent wheat, oats, and barley, growing upon cleared laurel and fern land. The rocks on the shores are frequently buried beneath the sand, and in the interior they are deeply covered by thick beds of red diluvial sand, gravel, and clay, and lastly by a deep red and rich soil. The strata, so far as they could be examined, are not dissimilar to those before described. The roads in this part of the island are excellent: the turnpike between St. Peter's and Charlottetown passes over and between a number of diluvial gravelly mounds, frequently called by American geologists "saddle-backs." They are proofs of the former existence of powerful currents of water that have passed over the island previous to its elevation above the sea. Boulders of granite, scenite, trap, and other rocks are scattered over the surface of the southern division of the island, although they are less numerous here than they are farther north. To these I shall advert hereafter.

Between the head of Hillsborough River and Savage Harbour there is a tract of low land, across which it is probable the tide once passed between the eastern and western coasts. Savage Harbour has a narrow and shallow inlet, situated between low sand-hills. The little bay is thickly settled on its northern side, and the Messrs. Coffin and others have made extensive agricultural improvements in the district. By the encroachment of the sea on the south side of the harbour, a number of Indian skeletons have been exposed and washed from the bank. These skeletons were lying together in different positions, as if the bodies had been thrown into a common pit, the top of which was only one foot beneath the soil. From an examination made at the spot, some of the bones were found to be of great size; and in general they all exceeded in their dimensions those of the race in its present state. The site of this pit, on the extremity of a small point of land, supports the opinion that the savages had been surprised and cut off, or killed in battle, and as no relics of warlike instruments were found at the place, except those of the aborigines, it is probable that the event took place before the island was inhabited by Europeans. From an old tradition of the affair among the Indians the bay has been called "Savage Harbour."

The sand-hills skirt all the inlets of this part of the shore, and bars of sand and shingle are frequently thrown up at the mouths of the harbours. Bedford Bay or Tracadie, is protected from the sea by a chain of sand-hills which form a lagoon along the shore. There is much spruce land in this quarter. The soil is good, and no change of any importance was observed in the character of the rocks. I was aided in my labour in this quarter by the Rev. John Macdonald, who is well acquainted with the geology of the district.

The red sandstones, shales, and marly clay are again exposed at Cove Head, near the entrance of Little Rustico; they also appear at a number of localities at Grand Rustico and Hunter River. At several places the group will supply freestone for ordinary purposes, but the limestones are too scanty to be of much value. I examined the banks of the streams falling into these estuaries, but was unsuccessful in making any useful discovery.

Great quantities of oyster and other shells are found upon the banks of the rivers and sides of the bays: they are sometimes six feet in thickness, and are covered by a soil containing much phosphate of lime. Some have supposed that they denote an elevation of the coast above the level of the sea, but these collections of shells were made by the Indians in former times, and they are now only found at the sites of their ancient encampments, where they derived a part of their subsistence from the shell-fish still found abundant on the shores. The separation of all the bivalve shells, and the rude instruments and even skeletons found in these deposits, show that they were made by the savages. When the shells are in a state of decomposition they afford excellent manure, and those that still remain sound may readily be converted into quicklime by burning. The limestone employed in this quarter is brought from the Magdalen Islands.

The scenery of the bay is very interesting, and on the tracts that have

been cleared there are some excellent farms. Three hundred of the families at Rustico are Acadian French, who still adhere to the customs and fashions of their forefathers. At the fine settlement on the banks of Glasgow River the lands become more elevated, and they are broken by deep ravines, or narrow gorges. The rocks in this district, and on parts of Lots 22 and 24, are chiefly coarse calcareous sandstones. The soil is a bright red clayey loam, and highly productive. The elevated ridges of wild land are covered with majestic forests of the hard woods. Advancing southward from Lot 22 to Lot 67, the roads pass over the central ridge of the island. The surface is undulated, bold, and occasionally somewhat broken. Some of the soil is gravelly, yet every variety of it has been proved to be fertile. Swamps and peat bogs are rare. A similar tract is seen between Lot 67 and Granville Bay, and New London. The bay is separated from the sea by an embankment of sand; it has a narrow outlet, with 12 feet of water, and receives West, Grand, and Mill Rivers. At the entrance of the harbour there is an extensive fishing establishment, owned by John Sims, Esq., to whom I am much indebted for his aid and hospitality.

From New London Harbour to Richmond Bay the distance along the coast is about ten miles. The shore is again fronted by perpendicular cliffs from 40 to 60 feet high, called "The Capes." The rocks are thick and shelly strata of red and chocolate-coloured sandstones, with their beds of clay, and occasionally streaks of white limestone; the dip is very variable, and at many places the beds are horizontal. At Cavendish, and on the farm of Mr. David M'Neill, an ore had been found, which, upon examination, proved to be the black oxide of manganese. It occurs on the slope of a hill directly beneath the soil; it is in small rounded nodules, and evidently of diluvial origin: the ore itself is valuable, but it does not exist in any quantity to render it an object for exportation. Similar collections of manganese ore were found at several other places, but none of them are capable of affording more than a few hundreds of pounds. At a small island in Trout River, three miles above New London Harbour, there is a peculiar calcareous conglomerate; the pebbles are all silicious, and the cementing matter alone is capable of affording lime. Much of the country bordering upon the coast is well cleared and populated, and the lands are very fertile.

Richmond Bay is a spacious sheet of water, upwards of 70 miles in circumference, reaching across the country nearly to Bedeque, on the opposite shore of the island. It is studded with a number of fine islands, which, with their sharp points extending into the water, greatly increase the beauty of the scenery. Its whole front next to the sea is bounded by a few small islands, between which a series of sand mounds have been thrown up by the waves and winds, excepting two ship channels and a few small openings. The principal islands are called by the inhabitants, Sandy, Hog, Bird, Lennox, Curtain, and Indian Islands. The whole of the surrounding lands are low, but, from the numerous swells in the surface, the tameness of a view from any point is greatly relieved. Previously to the American Revolution, this bay was the resort of fishermen from New England.

A number of fine streams fall into this basin, and in their courses propel saw and grist mills. These, with the lesser rivulets, have small tracts of salt marsh, and collections of shells and alluvium, whereby the upland soils may be greatly enriched; and it is to be regretted that they are not more extensively applied to fields that have been exhausted by the production of grain crops.

Prince-town, so called from having been laid out for a town and royalty, is a peninsula projecting into the bay, on the side of Darnley Basin. The shores of Malpeque and the south side of the bay are pretty closely settled, and the cultivation of the soil has been much improved of late. Near the bridge, at the head of the basin, and on the farm of William Beairsto, Esq., there is a very extensive deposit of oyster shells, in which the stone axes, arrow heads, and spears, of the ancient aborigines are frequently found; the shells are now employed for manure. By the encroachments of the sea an old Indian cemetery was opened a few years ago near the bridge, and several skeletons were exposed.

The red sandstones, with marly clay, and occasionally thin strata of conglomerate limestone, are predominant at Darnley Point, Prince-town, and the adjacent shores. Earthy manganese or black wad occurs on the farm of James Mountain.

Having procured a boat and two men, I next proceeded to visit the before-mentioned islands, where the above rocks also appear in low cliffs, which are constantly undermined and crumbling down. A part of Hog Island is composed of rocks from which a series of sand mounds stretch away southward to the main harbour channel, near which a fine spring of fresh water rises through the shingle. I had been informed that iron had been discovered at this place; but, upon examination, it was ascertained that a large mass of volcanic or trap rock had been forced upwards through the sandstone group, and now forms the chief part of the rocky portion of the island, or an area of a hundred square acres. The junction of the trap with the marly rocks may be seen at three different places. Wherever they are in contact the latter has been changed in colour, partially vitrified, and sometimes rendered sonorous. The red marly clays have been consolidated, and they now resemble hard burnt bricks. The nearer these rocks approach the trap the more visible are these effects, and where they are in juxta-position it is difficult to discriminate between one and the other.

The beds of sandstone have been much disturbed and thrown from their original horizontal position. From these and other facts that might be enumerated it is evident that the sandstones and clays at this place have been forced upwards and broken through by volcanic masses of trap, after their strata were laid. The trap is of three varieties—namely, compact trap, amygdaloid, and breccia. The first is of a dark green colour and remarkably hard; the amygdaloid contains small open vesicular cavities, which were probably produced by the expansion of volcanic gases; the cavities are occasionally occupied by crystals of carbonate of lime. The breccia contains masses of compact trap, embraced by a more porous rock. Dikes, eruptive and overlying masses of trap rock are very common in Nova Scotia and New Brunswick, and

they extend in all directions from the mountains known to be of volcanic origin; but it is remarkable that such dikes should appear so far away from the trappean ridges with which they are probably connected, and whether their protrusion was coeval with the elevation of the island, must remain to be matter of conjecture.

At Mill's Point, on the south side of Richmond Bay, the strata run N.E. by E., and dip south 5° a stratum of compact reddish-coloured limestone, from six to eight feet in thickness, appears at this place between high and low water marks, and extends nearly a mile along the shore. It is of a good quality, and may be readily quarried and calcined upon the spot. It is succeeded by red sandstone and conglomerate, and contains a few obscure corallines, which are occasionally separated from the rock, and seen scattered along the beach. This limestone is valuable, and will not only afford a supply for agricultural purposes, but the best kind of it will yield a strong white lime for ordinary uses.

The shore was examined at a number of places between the Point and St. Eleanor's. The rocks are similar to those already described, except that there is more conglomerate. The limestone also occurs, and a sufficient quantity may be obtained in the bay to supply this part of the island; a chain of farms fronts the water, and many fields are under good cultivation. The surface of the country gradually becomes low, and the soils of large tracts are not elevated more than ten feet above the sea.

The village of St. Eleanor's is situated at the extremity of the bay. It is a cluster of houses, with a fine church and court-house, standing in a thickly populated and valuable part of the island. A number of excellent ships are built annually upon the shore, and exports of timber and grain are made to a considerable amount. During the recess of the tide, carts are driven off upon the "flats," and speedily loaded with oysters. Shell fish of other kinds are also abundant.

Ellis, or, as it is now called, Grand River, is a pretty basin of water, receiving a fine stream from the low lands westward. At its mouth, and near the ferry, the conglomerate limestone appears again, being about four feet in thickness, and sufficiently pure to supply lime for the soil.

Having hired two active Indians, with a canoe, I proceeded to complete the examination of the bay and its islands. The lands are elevated only a few feet above the water, and extensive flats, shoals, and beds of shells prevent a close approach to the shore even by small boats. Limestone, similar to that at Grand River, occurs at Low Point, and may be seen in thin strata at different localities, wherever the rocks are exposed.

Near the Point is the site of an old French village and a large chapel, which were abandoned at that eventful period in the history of these Provinces when the Acadians were expelled. It is now covered with a thick growth of fir and spruce. At this place also, the sea has advanced rapidly upon the shore, and has intruded upon the ancient cemetery. A number of human bones were seen scattered along the base of a low cliff; and, in openings resembling ovens, which were the graves of the deceased, skeletons of the old and young were seen protruding, the coffins having decayed, and the spaces occupied by them are now open

cavities containing the mortal remains of their inmates. I collected all the bones I could find in the tide-way, and, by the aid of the Indians, who considered it a very unpleasant task, they were reinterred some distance from the shore. This place has long been a favourite spot for money diggers. If the persons who have dug large pits at Low Point would endeavour to place the bones of their race in a situation of security, their labours would be more praiseworthy than they now are in fruitless searchings for the gold of the pirate, Captain Kidd, who probably never visited the island.

Indian Island has long been the resort of the aborigines, several families of whom still reside upon it, and cultivate small patches of land. They have also succeeded in building a small chapel, and a few of them reside in comfortable houses. Near Port Hill is the residence of James Yeo, Esq., who is engaged in agriculture, lumbering, ship-building, fishing, merchandise, and other pursuits. He employs a number of mills, and, at the time of my visit, he had nine ships upon the stocks. Every kind of business is followed by this persevering individual without any apparent confusion whatever. The country is but very thinly settled —the lands and timber are excellent; still, at a short distance from the shore, the surface is covered by a dense wilderness.

The sand-hills extend from Hog Island to Indian Island, and thence to Holland Harbour, or Cascumpec, the whole distance being upwards of twenty miles. They are only interrupted by the channel to Port Hill and Cavendish Inlet, and forming a barrier between the upland and the sea, they effectually prevent the washing away of the soil by the tides and waves. Between this barrier of sand and the main shore there is a beautiful lagoon, averaging a quarter of a mile wide, and with sufficient water to allow boats and canoes to pass. While the sea outside is agitated by gales, the water of the lagoon remains tranquil, and offers a safe and easy channel of communication. The shore side of the lagoon is skirted by small marshes, and the sea-wall side by beaches and collections of alluvium, which, at the time of my visit, were occupied by great numbers of plover, herons, ducks, and other kinds of birds. The sand-hills are covered by bent grass, which protects them from the influence of the wind. This grass is sometimes mowed, and employed by the inhabitants for fodder. At the entrance of the lagoon, and occasionally throughout its whole length, there are boulders, some of which will weigh ten tons. They are forced towards the shore by the expansion of the ice during the severe cold of winter. The rocks, wherever they were observed, do not differ from those already described, but, in consequence of the shore being very low, only a few of the most superficial strata can be seen. A few families are settled on the side of the lagoon, but the surface of the country generally is an unbroken wilderness. At one situation the hard wood forest is seen standing upon the very margin of the salt water. The sea has flowed in among the beech, birches, and maples, by which they have been killed, and large pieces of drifted wood were observed among the decaying groves of the upland. A similar fact was observed at Panmure Island.

One of the most remarkable circumstances in regard to the geology

of the island was observed at Cascumpec harbour. On the south side of the bay there is a peat bog called the "Black Bank," reaching three miles along the shore, and containing nearly 2,000 square acres. It reposes directly upon the red sandstone and marly clay, and is from ten to twenty feet in thickness. This bog, with all its decayed spagneous plants, is of fresh water origin. Two groves of spruce and fir were observed to be buried in it at different levels, and their trunks and roots may be seen projecting from the bank. The peat is of excellent quality, and will, in the course of time, be valuable.

This deposit now forms one of the shores of the harbour, and at high water its lower part is seven feet beneath the level of the sea; is is constantly being washed away, and masses of it are seen scattered along the borders of the lagoon. At low water the side next to the bay is partially drained, so that the plants from which the peat has been derived have ceased to grow, and a part of the surface is quite dry.

It is not improbable that the site of this peat-bog was once a lake which was gradually filled up by the growth and decay of the mosses and other plants; but if the lake had been below the common sea level, the tide would have found its way into it through the channel necessary to give exit to the streams coming in from the adjacent lands. Under such circumstances the mosses, spruce, fir, &c. could never have flourished, as sea-water destroys them; nor is it probable that this bog moved forwards like a glacier into the sea, from having the barrier between it and the gulf washed away. It is now as high as the surrounding land, and does not repose upon an inclined plane, over which it could move. The water of Cascumpec harbour is deep, and the shore is so bold opposite Savage Island, and near the residence of Messrs. W. and C. Woodman, that ships may lay afloat alongside of the land; yet, the surface of the earth is scarcely elevated seven feet above the top of a medium tide. From a variety of facts that might be quoted, it appears quite evident that parts of the island have been, within a comparatively recent period, submerged, while, perhaps, others may have been elevated.

The evidences of elevation of different parts of the shores of the Gulf of St. Lawrence are evident from the collections of recent shells found in clay and marl beds now situated from 10 to 200 feet upwards above the present level of the ocean. In a very interesting paper, addressed by Captain Bayfield to Mr. Lyell, and published by the Geological Society of London, in 1839, this elevation of the land is stated to extend far up the river St. Lawrence. Besides this uplifting of the land at numerous places in British America, there has been a sinking down of the surface at certain localities; or, as it is understood by geologists, there has been a bending of the crust of the earth, by which some places have been elevated and others depressed—the elevation having, as it is supposed, exceeded the depression.

Admitting, then, that the tract of country where the above peat-bog is situated was lowered, the sea would immediately have extended its bounds, overflowed a part of the country, and finally have its margin upon the border of this bog. Savage Island, composed of red sandstone and diluvium, is still above the water, and the waves have raised a bar

of sand, which the winds have since lifted into a ridge that is now stretched across the mouth of the bay.

The rocks are again exposed between Kildare Creek and Cape Kildare, and thence to the North Cape, but they present nothing of any geological importance, and contain no valuable minerals. The uplands are so low that springs do not rise to the surface, and there are sunken tracts that cannot be drained. At Tignish, near the Cape, there is a large village of Acadian French, and two fishing establishments. Shore fishing is carried on by some of the inhabitants.

Formerly this place and the Cape were the resort of great numbers of the walrus, or sea cow: hundreds of those animals were killed on the land by the early inhabitants, among whose descendants pieces of their skins still remain in use. A deep pond, near Tignish, is said to be filled with their bones, and their tusks of ivory are occasionally found on the shore, or in the forests. Only a few of those noble animals are now seen, and of their number, which is stated by the fishermen to be on the increase, none are captured. A dangerous reef of sandstones extends from the Cape into the gulf to the distance of three miles—it has been the theatre of a number of shipwrecks.

Halifax, or Bedeque Bay, has a broad open mouth, which in certain winds is much exposed; but Wilmot Cove and Dunk River, at its eastern extremity, afford fine harbours for the largest ships. It is separated from Richmond Bay by a narrow peninsula from which the fine forests of hard wood have been chiefly cleared, and where the land is not cultivated the birch and maple have been succeeded by groves of spruce and fir. The whole district is well populated, and many of the farms are in a high state of cultivation. At Wilmot Cove, the small streams propel mills, machinery for carding, &c. The shore is so low that at high water the soil is washed by the waters of the sea.

A thick deposit of diluvial *debris* covers the sandstones, some of which are calcareous. There are also thin strata of conglomerate and impure limestone. There are only a few families residing on the shore westward to Fifteen Point. The low tracts and swamps are covered by spruce, fir, and cedar; yet, wherever the land is dry, there are fine groves of hard wood.

The main road passed through the Miscouche settlement, a large village of French Acadians. At the Point there are also upwards of fifty families of these frugal and orderly people. Beds of diluvial sand, gravel, and clay, cover the rocks often to the depth of 20 feet. A few of the upper strata were seen on the shore and in some of the shallow ravines. Small quantities of the oxides of manganese and iron sometimes occur in the subsoil, but none of them are of any practical value. A similar tract of country extends to Egmont Bay and West Cape. The quantity of cedar increases towards the north, and a good supply of that valuable timber may be collected for exportation.

Egmont Bay is a shallow indentation that affords no safe harbour for large vessels. A long bar of sand and shingle is stretched nearly across the mouths of Enmore and Percival Rivers, and a part of which, with large flats, is laid bare at low water. The above streams pass through a tract of salt marsh, containing upwards of 2,000 acres. The shores and

all the adjacent lands are elevated only a few feet above the sea, and, from being imperfectly drained, the surface abounds in swamps of ash and cedar—the soil, in general, is light and sandy. Between West Cape and Percival River, a ridge of sand has been thrown up next the sea, and a tract of marsh has been formed between the sandhills and the upland. From Cape Egmont to the farm of Joseph Higgins, Esq., and at a few places on the north side of the bay, the red sandstones, conglomerate, marly clay, and conglomerate limestone, may be seen occasionally: the latter rock, which has previously been described, is sufficiently pure to be employed in agriculture, and with the great quantity of sea weeds thrown upon the shore during gales of wind, it will afford an abundant supply of manure. Common tides rise only three feet at this part of the island. They are much influenced by certain winds, and are, consequently, very irregular. Evidences of the submersion of the land were also observed in this quarter, but they are more obscure than those of Cascumpec. The scenery of the district is remarkably tame, and its geology is simple and uninteresting. A road has been surveyed and partially improved, from the bay to the North Cape, yet the whole interior land of this part of the siland is in a wilderness state. From the West to the North Capes, there are no harbours, and a few inhabitants are scattered along the fronts of the lots. The before-mentioned rocks rise in considerable cliffs. The limestone occurs at several localities, and at Lot 7, it may be advantageously quarried. From the identity of these strata with those of the opposite side of the island—their similarity of course and position—it was deemed unnecessary to pursue the inquiry farther in this direction.

Returning to Bedeque, a great change is observed in the general features of the country. The lands are more elevated, and the surface is diversified by hill and valley. The soil is extensively cultivated and produces excellent crops of grain, and all the vegetables and fruits of the climate. The scenery is revived, and a view from the fine farm of Capt. Thomas, or from any part of the banks of Dunk River, is very beautiful. The mouths of the rivers, celebrated for their fine oysters, are skirted by tracts of salt marsh and marine alluvium, abounding in shells, which, with the limestone that may be collected at different localities, offer abundant resources of manure.

Previous to the geological inquiry, the Hon. Joseph Pope, who cultivates an extensive farm at this place, had discovered and calcined the conglomerate limestone; and his scientific system of farming has had a very beneficial influence on this part of the island; to him I am indebted for much valuable topographical information and aid in prosecuting the survey.

At Salutation Cove and Indian Point there is a general dip of 5° of the red sandstones, shales, and conglomerates, to the north; some of these sandstones will supply durable materials for buildings. The cliffs are from 15 to 20 feet high, and in them the conglomerate limestone often appears in thin and somewhat irregular strata. Entering Dunk River, there are no cliffs, and a bed of clay suitable for bricks and tiles forms a part of the low bank touching the harbour and river. The clay and limestone also appear on the farm of Capt. Thomas, and on the

opposite side of the creek. The black oxide of manganese had been discovered by Mr. Pope, at Hurd's Point; it occurs in rolled masses in a low piece of ground that has formerly been a swamp. The quality of the ore is good; but it is not probable that it exists in any great quantity. A similar deposit occurs near Mr. Bagnall's Inn, Lot 22. The same rocks appear at Graham's, or Sea-cow Head, and Salutation Point. At the latter place the cliffs, from 40 to 60 feet high, have been worn out by the sea into deep chasms and grottoes. The strata at this place are irregular; the shore is thinly settled, but, in the interior, there are many fine farms. Near the Point is the residence of Mr. Alexander Anderson, who is now one hundred years old, and still enjoying his mind and memory. Such instances of longevity are not rare on the island, and they are good evidences of the healthfulness of the climate. Sea-cows or walrus were formerly numerous on this part of the shore, but they have long since disappeared. Southward to Cape Traverse the coast is similar to that just described—the sandstone group at many places being thickly covered by *debris*. The shore at Tryon River is low, and few opportunities are offered for the examination of the rocks. The river extends through a fine village and a tract of marsh—the harbour is too shallow for large vessels.

At Westmorland, or Crapaud, there is a very pretty bay and river: the harbour will admit vessels of 200 tons burthen. A ridge of high ground extends from this part of the shore across the country to New London. It bears thick forests of hard wood, and the soil is remarkably fertile. I had been informed that large fragments of fossil trees had been found at Crapaud, where it was supposed there were indications of coal. Upon examination, it was observed that those fossils are only found in the soil and drift. They evidently belong to the boulder formation, and occur with the erratic blocks on the surface, to which I shall advert hereafter. They are identical with a variety of the fossil trees that appear in the cliffs of sandstones of the coal-field of Cumberland, Nova Scotia, and parts of New Brunswick, whence they have been probably removed by the same causes that transported the boulders of granite to the island.

Between the above place and Hillsborough Bay the lands are elevated, being occasionally broken by steep hills and deep ravines. Near the mouths of Tryon, Brokelby's, Rice and Allan Coves, and between the latter and Fort Amherst, there are perpendicular cliffs from 40 to 60 feet high. These cliffs are also composed of the red sandstones, shales, and conglomerates, with conglomerate limestone. The following section was taken between St. Peter's and Allan's Cove:—

Diluvium	8 feet
Conglomerate	4 ,,
Red sandstone	10 ,,
Red shale and marly clay	6 ,,
Impure limestone	1 ,,
Red sandstone	2 ,,
Conglomerate limestone	4 ,,
Total	35

The course of the strata is N.E., with a general dip of 5° N.W. From the facts that have been noticed, and others that might be introduced, it appears very evident that, excepting the coal-field at Gallow's Point and the trap-rocks of Hog Island, Prince Edward Island consists of groups of red sandstone, the strata of which have been already described.

Alluviums are produced by causes that are daily operating upon the surface of the earth. Frost, snow, rain, changes of temperature, &c., all tend to disintegrate the hardest rock, and finely divided mineral matter is constantly carried downwards by the shower, as well as by the flood, from the hills into the valleys, and spread along the borders of the streams by the overflowing of their waters. The sediment thus produced may be called the alluvium of rivers. Again, by the constant operations of the tides and waves of the sea, the shores are worn away, the sands of the sandstones and pebbles of the conglomerates are disunited and spread out in beaches, while the fine particles of clay and marl, from being mixed with the water, are transported to great distances, and finally thrown into the river mouths and estuaries, where they form estuaries of the sea.

The alluvium of rivers and the alluviums of the sea, are often mixed on the coasts, the one being brought downwards by the fresh, and the latter inwards by the salt water. Such alluvial matter, whenever it is sufficiently drained, is the richest of natural soils, and, by being mixed with the sandy uplands, it will, in all ordinary cases, greatly increase their fertility. Alluvial deposits are very numerous on Prince Edward Island. At the extremity of Egmont Bay there is an alluvial tract of 2,000 acres. At Bedeque, Lot 42, and other places, such tracts are also extensive. As the tides only recede a few feet, it is not probable that these tracts can be reclaimed by dikes, or embankments, yet they may be greatly improved even in their present condition, and they are valuable for the natural grass they produce for hay.

Peat is formed by the growth of sphagneous, or mossy plants. Ponds, lakes, and low tracts are frequently filled by the productive powers of vegetation. The mosses first begin to grow around the shores; each succeeding season yields a new crop; the preceding one having been buried beneath the water, where it is preserved from decomposition, and this process is carried forward until the lake or pond is filled. These plants will also close up the outlets by which the water makes its escape from low tracts. The result is the forming of ponds, and, as forest trees cannot grow in situations where their roots are constantly submerged, they decay, fall, and are finally buried in the peat, which spreads its annual layer even over the surface of the water. No sooner is the accumulation thus produced raised so high that there is not sufficient moisture on the surface to nourish the peat forming plants, than the whole process is terminated, and the site becomes a barren waste. Peat bogs are numerous on the island, but, in general, they are small. The most extensive of them is at Cascumpec harbour. It contains 2,000 acres. These bogs will supply a useful article for compost manure, and afford fuel, should it ever be required.

A Marly Clay is found interstratified with the sandstones; it sometimes contains ten per cent. of lime. Its value for manure may be tested by the application of a few drops of muriatic acid, the quantity of lime present will be indicated by the briskness of the effervescence. It will be useful when applied to light and sandy soils, which the clay will render retentive of moisture.

Bog Iron Ore; or, Hydrous Peroxide of Iron.—This ore appears in the soil, and in bogs at many places. It has evidently been washed from the soil, to which it imparts the colour of the rust of iron.

Several deposits of the hydrated *oxide of manganese*, or black wad, are noticed; they have been collected by a process similar to that by which bog ore is produced. By the disintegration of rocks containing manganese, the ore is set at liberty and washed by rains into shallow basins on the surface. It is frequently found associated with the hydrous peroxide of iron, and mixed with clay.

The remains of ancient forests, now submerged beneath the sea, are not uncommon on the coasts of North America. The trees are such as usually grow on low land, and with them peat sometimes occurs. Several sunken forests are mentioned in Professor Hitchcock's Geology of Massachusetts. During the geological survey of New Brunswick, I discovered a submerged forest on the south side of the island of Grand Manan. At different localities in Nova Scotia there appears to have been a subsidence of the land. At Prince Edward Island this remarkable fact may be seen at Gallow's Point, but more especially at Cascumpec, where, with a forest, a large peat bog is now beneath the level of the sea. Many theories have been proposed to account for such phenomena; yet it is probable that they can only be explained but by referring them to movements which are known to take place in the crust of the earth, whereby certain tracts are elevated and others are depressed.

Dunes or Sandhills.—During storms the sand of the shore is often thrown up by the spray and not withdrawn by the reflux of the wave, and having been dried by the heat of the sun, it is driven inwards upon the land by winds, and forms considerable elevations. Such hills are called dunes, for which the borders of the Nile are celebrated. Chains of such hills are stretched across the mouths of nearly all the bays of the eastern coast of the island, where they form harbours with narrow channels, and contribute much to the beauty of the scenery. The sand is also blown upon the uplands, where it sometimes, by its constant accumulation, proves to be a serious injury to agriculture. The principal dunes are covered with bent grass, which, when it is firmly rooted, prevents a further progress of the sand. Trees and beach grass are sometimes planted in other parts of the world to arrest the moving drift.

On the inner side of these dunes, a good alluvial soil is sometimes collected, upon which wild plants grow luxuriantly, and some tracts would produce wheat and clover. From the great abundance of oysters and other molusca upon the shore, these sands occasionally contain comminuted shells, and will effervesce in the strong acids. Such sand, from containing the phosphate of lime, would be beneficially applied to heavy clay soils.

Boulders.—Among the whole line of the northern part of the American continent, where it skirts the Atlantic, loose blocks of granite, sienite, trap, greenstone, porphyry, and other rocks are found scattered over the surface, and on formations from which they are altogether different. They vary in weight from a few pounds to fifty and even a hundred tons. They occur in the plains and valleys, and upon the table lands and hills. In some instances the angles of these masses have been worn off, as if they had been submitted to friction upon sea coasts: again they appear with sharp edges, as if they had been recently removed from the quarry.

These masses of rock are called boulders, and may be properly classed with a variety of diluvium found with them on the surface of the earth. The surfaces of the solid rocks at numerous situations where these boulders are seen, are found to be furrowed and scratched in certain directions, as if hard and heavy bodies had passed over them with great force and friction. These are called diluvial grooves, which were evidently produced by the passages of the boulders during their transport.

The boulders of this part of America are situated southward of the mountain masses from which they have been removed, and they have been traced, by geologists, to their birth-places. I have found erratic blocks of stone belonging to the central granitic ridges of New Brunswick, fifty miles and upwards southward of their original sites; and boulders from the mountains of Gaspe are scattered over the low lands of the northern part of New Brunswick, having been transported across the Bay Chaleur to the distance of eighty miles. The size of the boulders usually diminish in proportion to their distances from the parent mass.

The forces by which these blocks have been removed have been directed from the north towards the south. The diluvial grooves run from north-west to south-east, and north-east to south-west, and there are still greater variations in their courses, or such as would arise from the passage of a sea over submarine mountains. Without entering upon any full description of diluvial drift and the causes that have produced it, I may remark, that boulders of granite, sienite, trap, &c, appear occasionally in every part of the Province; they are, however, far more numerous on the northern part of the island than to the south, a circumstance that accords with a fact already noticed. The boulders are not only found upon the surface, but also lodged in collections of diluvial *detritus*. The largest of these erratic blocks will weigh five tons and upwards, and as there are no rocks *in situ* of the kind on the island, some of them must have been transported to a distance of 200 miles and across the Gulf of St. Lawrence, where it is 100 miles wide. Besides the boulders of igneous rocks among the drift at Crapaud, there are pieces of large fossil trees, like those of the strata, belonging to the coal-field of New Brunswick. These may have been imported from any part of the district between Bay Verte and Point Miscou, and over distances from 20 to 100 miles; certain it is they do not belong to the island, and therefore they are properly referred to the nearest rocks which contain fossil plants of a similar kind. Several theories have been proposed to explain the phenomena of boulders. Formerly, by many they were ascribed to the effects of the deluge recorded in the Mosaic history; but it is now known that

causes are still in operation whereby they might have been transported. More recently an opinion has prevailed that they were moved by currents of water at that period when the districts where they are found were submerged beneath the sea. Still it is not probable that aqueous currents could ever have carried the boulders across the deepest sea channels to opposite shores, and up steep acclivities, even to the summits of mountains. By such causes masses of rock, gravel, sand, &c. are daily urged forward by the currents of rivers, but they do not afford satisfactory evidence that the boulders and diluvial drift, found under the above-mentioned circumstances, have been removed from their native situations to their present sites by the unaided operations of water.

If we look to causes that are still active upon the earth, it will be observed that ice performs a most important part in the transportation of mineral matter. The immense icebergs and sheets that are annually formed in almost all the bays, rivers, and estuaries of the North American coast, embrace fragments of rocks, gravel, sand, drift-wood, and everything that was in contact with them at the time of their congelation. In the spring, when by the heat of the sun the ice begins to dissolve, it is loosened from the shores, lifted by the spring tides, and carried by currents out to sea, or to other shores, with many of the materials it laid hold of during the months of intense cold. I have observed, also, that where the ice, loaded with boulders, is forced over the surfaces of rocks, they leave parallel grooves in the direction of the currents, like those that occur on the faces of the strata now elevated far above the sea.

This natural mode of transportation is carried on in a greater or lesser degree from the high latitudes where icebergs are formed, to the south, where water only freezes to the depth of a few inches ; as the warmth of the spring or summer increases, and the ice dissolves, the transported rocks, sand and gravel are liberated, and they fall to the bottom of the sea, are lodged upon its borders, or on the shores of the bays, inlets, and rivers. Minerals peculiar to the coast of Labrador are therefore found on the shores of Newfoundland, Cape Breton, Prince Edward Island, and on the Atlantic side of Nova Scotia. The rocks on the Gulf of St. Lawrence are carried to opposite shores, and thousands of boulders drop annually from the ice to the bottoms of the bays, and are scattered along the coasts. I found blocks of red sandstone of the head of the Bay of Fundy, at the western extremity of Grand Manan, the distance between the two sites being upwards of one hundred and seventy miles. The trap-rocks on the south side of the Bay of Fundy are exchanged for the slates and grauwacke of New Brunswick, the distance between them being from forty to seventy miles. The sandstones of Cumberland are sometimes brought into the basin of mines ; and manufactured grindstones were identified a few years ago that had been brought from the former to the latter place, a distance of one hundred and forty miles, in masses of ice.

It will be admitted by every practical geologist, that the chief part of the stratified rocks of North America have been formed beneath the sea, a fact established by the numerous remains of marine animals contained in them. Long since these rocks were consolidated they have been sub-

merged, as may be proved by the recent shells now found in beds of marl and clay several hundred feet above the level of the sea. That Prince Edward Island has been raised from beneath the waters of the gulf, few will doubt who carefully examine its valleys and beds of diluvium. Guided by much corroborative testimony, a part of which has been referred to as briefly as possible, I cannot refrain from expressing my opinion, that the boulders of Prince Edward Island have been brought hither by ice during that period when its surface was beneath the waters of the Gulf of St. Lawrence.

Diluvium.—At many situations on the island, there are beds of small rounded stones, gravel and sand, varying from five to fifty feet in thickness. These collections of *detritus* often form chains of oval hills, and skirt the flanks of the valleys in such a manner as to impress the mind with the belief that they were thrown up by the agency of water. Indeed, the stratification of the gravel and sand which appears occasionally, renders it quite evident that currents of water have been active agents in their accumulation; yet, many of these superficial deposits bear no marks of stratification. By an examination of the materials of these deposits, it will be observed that the rocks and minerals of which the fragments are composed do not belong to their present sites, being different in their characters from any of the strata of which the island is composed. Their origin and situation may therefore be properly ascribed to the same causes that transported the erratic boulders. The melting of large masses of stranded ice loaded with gravel and sand, leaves mounds and elevations upon the present shores, and the hills of unstratified diluvial *detritus* may therefore be accounted for by referring them to the melting of stranded ice during the boulder period. The appearance of such deposits would be much modified by the operations of currents of water, which have evidently opened many valleys and spread the gravel out in strata.

Another kind of diluvium is composed of pieces of red sandstone, red sandstone and clay, which in general repose upon the solid strata beneath. This *debris* has been derived from the red sandstones and shales of the island, and affords a more fertile soil than the imported variety. It is frequently mixed with the foreign drift beneath which its principal beds are situated. On the road leading from Charlotte-town to St. Peter's Bay, and the lands between the Bay and Murray Harbour, and parts of the shores, opportunities are afforded to examine the above deposits, which, from their situation in an isolated tract of country, are not without interest.

ENCROACHMENTS OF THE SEA UPON THE SHORES.

It is not necessary to go into the minute details of this part of the subject. The combined influences of river currents, tides, and breakers, are constantly wearing away the solid rocks of the coasts and spreading their mineral ingredients over the bottom of the ocean—in beds of sand and shingle along the shores, or in collections of alluvium in the river mouths and estuaries. The configuration of the shores, has, in a great degree, arisen from the characters of the rocks presented to the sea.

Wherever those rocks have been soft and yielding, coves and other indentations have worn out, while the hard and compact masses, by their resistance to the sea, are seen projecting in capes and headlands. It does not appear that the simple operations of the tides have any very dilapidating influence.

By the dashing of the breakers against the soft sandstones of the island, the lower strata are worn away, while the beds above the waves are undermined, and annually fall in heaps of rubbish in the tide-way. The frost of winter, rain, and other meteoric agents, also contribute to these effects; and in the spring season, the shore, where it is unprotected by shoals, bars, or sand-hills, is covered by the *detritus* of the rocks, which is removed by the ice or broken up by the waves into pebbles, sand, and alluvium. Wherever the coast is low and the water shallow, the result of these operations check their own progress—shingle beaches and sand-hills are thrown up, which protect the strata and the soil against farther dilapidation.

On a part of the north side of the island, where the coast is exposed to gales that sweep across the gulf, the shores, after having been greatly intruded upon, are bounded by chains of sand-hills. Near the North Cape, between St. Peter's Bay and East Point; between the North Cape and West Cape, and at other places on the southern extremity of the island, the sea is still making rapid encroachments, and is annually reducing the area of Prince Edward Island. Even in some of the bays and harbours this encroachment is so rapid, that the cemeteries of the dead have been broken into, and the mortal remains of their tenants have been washed away by the waves.

The hard rocks of Point Prim have resisted the advance of the sea, while the clayey and friable strata of Orwell Bay are yielding to its sway. It is certain, mineral matter thus removed is again thrown back upon the coasts, still the loss of the dry land far exceeds the accumulation of sand and alluvium lodged in the bays and upon the shores. It would be difficult to estimate the annual diminution of the island from the above causes. It is, however, very considerable, and far beyond prevention by human means.

(To be concluded in our next.)

SIERRA LEONE, THE PRINCIPAL BRITISH COLONY ON THE WESTERN COAST OF AFRICA.

BY WILLIAM WHITAKER SHREEVE,

SIX YEARS RESIDENT, AND LATE ACTING FIRST WRITER IN HER MAJESTY'S MIXED COMMISSION COURTS, SECRETARY'S AND CROWN OFFICES, IN THE COLONY.

(Continued from vol. xi., p. 460.)

BUSINESS transactions are in cash, or quarterly credits, and produce paid for half in cash and half in goods. Timber, and other articles purchased from the natives, in the Mandingo, Soosoo, Sherbro, and Timmannee countries, are paid for wholly in (Calla)* goods by the *bar*, a native term, the value of which is from two shillings to two shillings and sixpence, a fathom of cloth (two yards) is equivalent to a bar, a musket to seven or eight bars, half a gallon of rum to one bar, and so on; but, to give the reader a more detailed knowledge of transactions in bars, a table is subjoined; it is to be remembered, however, that the bar varies in different parts of the coast, and that this table applies to countries around the Colony.

TABLE OF BARS OF HALF-A-DOLLAR, OR TWO AND SIXPENCE EACH.

(One bar of tobacco is four heads, of five leaves each bunch.)

Articles.	Bars.
2 bottles of rum	1
1 fathom (2 yards) blue baft.	1
1 ditto satin stripe	1
1 ditto white baft. (heavy preferred)	1
1 1/10 keg of powder	10
1/2 pint ditto	1
1 gallon iron pot	1
1 large cutlass	1
2 small ditto	1
1/2 length iron bars (say 6 feet)	1
Salt in a tenth powder-keg	1
1 double red woollen cap	1
2 single ditto	1
1 Tower musket	8
1 long Dane musket	12
25 flints ... 6 fowls, equal to	1
25 pipes ... 12 ditto	1
1 fathom red taffety	3
1 Turkey-red handkerchief	1
1 Pullicat ditto	1
1 Madras ditto	1
1 fathom of print	1
1 piece of romall (description of print)	5
1 fathom Tom Coffee (particular print)	1
1 large washhand bason	1
2 small ditto	1
4 strings of beads (mixed of white, black, and seed beads, for tofoos or necklaces)	1
Woollen shirts	2 to 3
Ditto trousers	4 to 5
Striped shirts, or checked for the timber trade	2
6 sheets trade paper (pot)	1
Herrings, mackerel, 10 to 15 for the river trade, and salt provisions of all kinds	1
Port Logo.	
1 bushel of rice filled to the brim	1
2 to 2 1/2 (usual run) gallons of rum	1
Timmannee.	
2 ducks	1
1 sheep	3 to 4
Mandingo and Soosoo.	
1 large bullock	15
1 sheep	2 to 4
1 goat and kid	2 to 3

* Calla means goods; calla fiera means cash, currency, &c.

River Dibbi, Sherbro.

Palm-oil rather cheaper than in Port Logo, purchased with rum, tobacco, beads, caps, and in exchange for Sherbro cloths.

Catty-ko-Bany, a fine kind of mahogany found on the Rokella River, Timmannee country, and River Dibbi, Sherbro.

The Soosoo, Mallicome, and Soombia yields stock, ground-nuts, &c.; rum and gin the staple articles of exchange.

German houses, from Hamburgh, have been lately established in the Colony, and the introduction of German manufactures has become general, but they are neither of a useful nor durable character, and, in some instances, the houses have suffered in mercantile respectability. Scheoning's is noted for having purchased condemned vessels in the slave trade, one, the "Isabella Hellen," which has afterwards appeared, on two occasions, before the Mixed Courts for adjudication. Another, Effenhauson Nagal, the Hamburgh consulate, has been severely fined for attempting to defraud the revenue, by introducing a large quantity of rum.

American cargoes frequently arrive in the Colony from New York, Philadelphia, Boston, Salem, and other parts, and consist chiefly of provisions—flour, tobacco, tea, butter, &c.; the whole of which generally meet with a ready sale. Manufactured goods, such as those of Manchester and Birmingham, they never import, showing their inability to compete with England in price and quality.

Trading with the native kings has its peculiar forms and customs. Upon the arrival of a trader he is expected to wait upon the king, or headman, with a present, which, amongst the Soosoos, is called making *dash*, or "*dantaga*," and *limbà* amongst the Timmannees, the value of which varies with the will or ability of the donor, the *royal* attention and good-will being proportioned to the gift. The following "dash," or "dantaga," which would be considered as coming down handsomely, will give some idea of negro majesty; which, however, is not so humble in the eyes of its sable subjects as may be supposed by those who bow to more enlightened thrones and dazzling splendour.

Dantaga, or Royal Present.—1 jug of rum, 2 to 4 bars; tobacco, 4 bars; romall, 1 piece; 1 1-10th keg powder.

The court of Soosoo prefers gin, whilst that of Timmannee rejoices in rum, "*de gustibus non est disputandum.*" After presentation, the king introduces the trader to his chiefs and headmen, and informs them of the nature of his business, and then provides him a landlord, who becomes his interpreter and factotum; trade is then commenced by showing the landlord the commodities intended for sale or barter. The factor's property is considered safe whilst he is the king's stranger, and in the event of any dishonesty or dispute between the parties, on complaint to the king, he orders his "callaiguay" (a large drum) to be sounded, and immediately his chiefs, headmen, and counsellors assemble in the barré (court-house), when, after hearing the case, the palaver (talk or argument) is settled, and the counsellor receives the fee of a couple of bars as remuneration for his forensic eloquence.

Two or three days before the trader wishes to leave he waits upon the

king to inform him of his intention, who, in return, makes such presents as he thinks proper.

The case of a Timmannee barré may be consistently introduced here, to show how such affairs are frequently managed, and by which it will be found that justice is not always the influencing deity, the kings and chiefs being, in every sense of the word, rapacious and dishonest, and will proceed to any extreme to satisfy their covetousness.

The cause here alluded to was between an European factor and an African trader, both subjects of the Colony. The former had a number of marked timber logs stolen by some natives, which were purchased by the latter, and, though identified, were refused to be given up. Shortly after a canoe of goods were landed at the European's beach by the African, and were immediately seized by the other party according to the country law, and became a question in barré. On the first day no decision was made, evidently from the want of *something*. In the meantime both plaintiff and defendant took the hint, and employed themselves in bribing the judges and counsellors. Next day the cause appeared more definitive, yet not quite transparent; but, on the third evening, the European's purse appearing invincible, the African was obliged to strike, and so lost, not only the cargo, but forfeited the canoe. The verdict would have been a correct one, upon the merits of the case, but as all the law or equity of the barré is confined to the merits of the *purse*, the European was solely indebted to its potent influence for his success. Such is a sample of proceedings in a Timmannee court, where the judges are a king, chiefs, and headmen, and the counsellors maraboots or bookmen.

Currency by the last Order of Council, in 1843, is as follows:—

All kinds of English coin current.	£	s.	d.
Spanish, Mexican, American, Bolivian, and Peruvian doubloons	3	4	0
Ditto ditto ditto dollars	0	4	2
French five-franc piece	0	3	10½

English 3d. and 1½d. silver pieces, farthings, and half-farthings. Great quantities have been sent out lately to accommodate the small African hawkers and poor traders. The navy and army are paid by the Commissariat, in sterling, and bills upon London, &c.

Agriculture and other produce may be introduced here under this general head of commerce. The subjects, from *apropos* situations, have been so frequently touched upon in the preceding pages, as to leave but few further observations necessary.

The greatest drawback to honest industry, in the cultivation of farms, is the fear that those who plant will not reap the fruits of their labour: for instance, the Maroons are the owners of a large tract of land called King Tom Freetown, which is almost entirely neglected, from the circumstance, that after having bestowed much time in its cultivation, they were continually plundered by those who were idle and dishonest.

The indigo plant grows as weed in the very streets of Freetown, and through the Colony, but is not turned to any account. Some years ago there was an indigo factory up one of the rivers, but was not persevered

in. The sugar-cane is a regular market article, and abounds everywhere, yet no attempt has been made to manufacture sugar. The Africans merely suck the saccharine matter out of it. There is every reason to believe that both indigo and sugar, with proper management, would be a profitable speculation. Coffee also is worthy of much greater attention than it receives, and cotton could be grown to any extent. French mercantile agents were, at one time (1845), permitted, through Governor Fergusson's neglect of the Colonial interest, to enter the river Mallicouri, and make treaties with the kings and chiefs for commercial intercourse; and it was not until our merchants remonstrated with the executive, that British commissioners were sent to counteract this remissness, by treaties on the part of the Colony.

Origin of the Teembo Mission.—It is but fair to acknowledge that the mission to Teembo, the capital of Foula Jallon, owed its origin to that excellent and able Governor, the late Sir John Jeremie, in 1841, it being one amongst many measures he had in contemplation to benefit the interest of the Colony, as well as to extend the influence of British institutions amongst a people so benighted with superstition and idolatry. His death, but after four months residence in the Colony, cut short a career that foretold a brighter prospect, and deprived the African race of a true and sincere friend. As a preparatory step Sir John had commissioned two Mandingoes (one Mousa Couti, and Sattah Moodie, a younger son of Dalla Mahommedoo, King of Bullom) to proceed with a quantity of presents to the chiefs of Tambacca, a principal place on the way, with a view to conciliate them and open the road for the intended mission. These two Mahommedans took their departure from the Colony, and entered the Mandingo territory; but arriving a short distance they shared the presents between themselves and other headmen; then, after staying about one month, returned and reported themselves from Tambacca. This villanous and nefarious transaction was not found out until after the death of the Governor, and has never yet been satisfactorily solved—all being rogues together and interested in the concealment. It is, however, but justice to state that Sattah Moodie was not so deeply involved in the robbery as Mousa Couti, an old rogue, and that he did some time after report his colleague's dishonesty. This explanation was given to me by Sattah Moodie, in a conversation I had with him on the subject, in the year 1843, at Freetown.

This mission being in agitation during the acting governorship of Mr. Carr, in 1841, it appearing to me that the time proposed for its setting out (the rainy season) was very inauspicious—as all African travellers, and writers who have treated upon interior enterprises, have adverted to the impracticability of accomplishing such an undertaking during the rains—I addressed a memorial to the Governor, calling his attention to the subject, of which the following is a copy:—

The Memorial of William Whitaker Shreeve, showing the impracticability of prosecuting the Mission to Teembo, during the rainy season, by an European, and the period when to undertake the same, and the means to carry it into execution with every prospect of a successful result, and the benefit expected to accrue from it.

1. It has at all times been proved by African travellers, and well-informed writers on African enterprises, the utter impracticability of successfully accomplishing missions into the interior, dur. g the rainy season, without the certainty of sickness and an awful loss of life, that has generally ended in the failure of their mission.

Mungo Park, in writing from Sansanding to Lord Camden, says—

"Your Lordship will recollect that I always spoke of the rainy season with horror, as being extremely fatal to Europeans; and our journey from Gambia will furnish a melancholy proof of it, for out of 44 Europeans who left in perfect health, *five* only are at present alive."

In another part Park says—

"The rain had an instantaneous effect upon our healths, and proved to us the beginning of sorrow, producing dysentery, fever, and epilepsy, sweeping away its victims with awful effect."

René Caillié, a Frenchman, who, assuming the dress and character of a Mahommedan, departed from Sierra Leone, in 1827, penetrated through the interior by way of Timbuctoo and through the Great Desert, coming out at Morocco, on the shores of the Mediterranean, says—

"I arrived at Tinie in August, and little did I think how long I was destined to be their guest. I was there confined for four months of fever, and other excruciating diseases incidental to the rainy season; one thought alone absorbed my mind—that of death."

Caillié adds—

"The rivers begin to overflow in July, and the natives can go three miles over the plains and lowlands in canoes."

I think the evidences of these experienced and hardy African travellers will speak loud to your honour against the practicability of undertaking the mission to Teembo at the present season. Were others wanting, Sierra Leone would furnish abundant melancholy proofs of the awful mortality amongst Europeans during the rainy season.

It would appear that the month of November is the earliest period that it would be advisable to prosecute the mission to Teembo, the capital of the Foula nation, from the fact of having a period of six months of dry weather in prospect from that month, when the rains have subsided, and the season is healthy.

The means necessary for accomplishing the mission to Teembo:—1 European, with sole charge of the mission; 1 Foula guide; 1 Mandingo interpreter; 8 men as carriers, hired in the Colony; 4 soldiers, with arms, ammunition, &c.; 1 horse or mule; 1 musquito net; 1 hammock; small quantity of medicines; 1 British flag union. Stores—Rice, biscuits, &c., from the Colony. Description of articles usually given, and calculated for presents to the kings and chiefs, and for the purchasing of provisions &c., on the road—Swords, pistols, guns, shot, balls, flints, rockets, powder in kegs and bottles, cutlasses, amber, paper, coral beads, mock coral, and glass beads, trinkets, tobacco, cloves, small looking-glasses, scissors, knives, razors, needles and thread, silk handkerchiefs, cotton ditto, muslin, umbrellas, stuffs, red and orange colour, scarlet cloth, scarlet woollen caps, blue baft, white baft, turkey-red handkerchiefs, blue nankeen, yellow ditto, prints, black lead pencils, dollars, &c.

The benefits expected to accrue from the mission, I conceive, would be—

1st.—The presence of an European as representative of the Governor of the Colony of Sierra Leone would be a voucher of the desire of the Colonial Government to establish an amicable feeling of friendship between the Foula and Soosoo nations, and the Colony.

2nd.—By appropriate presents to the alamamy, the chiefs and headmen, and a conciliatory demeanour, to change the hostility of the two nations into friendship.

3rd.—Consequently, opening the road for the gold strangers to pass, and thus bring a lucrative branch of trade to the Colony; which at present finds a market at some of the French settlements to the northward, to the loss of the British merchants in this Colony.

4th.—To ascertain, if possible, the fate, or any information, of the Niger Expedition.

5th.—To ascertain more particularly if there are any other productions besides gold, that can be rendered an article of profit in trade to this Colony.

6th.—Keeping a journal with a description of the places which are passed, and an account of the manners and customs of the inhabitants.

7th.—To ascertain if this good understanding when formed, and the increased communication in trade, can be made conducive to the discontinuance of the transit of slaves from the interior to the coast for the slave dealer—a thing so desirable to the friends of humanity, and which the present gigantic exertions of Great Britain are tending towards the accomplishment of.

Finally, I think I have proved to your Honour, from conclusive evidence, the impossibility of success, should the mission be resolved upon at the present period, or before the month of November; and I have particularised to your Honour the means wherewith to accomplish the mission on a scale bordering neither on extravagance or on the contrary extreme of meanness; keeping in view that dignity and just liberality which have ever been the characteristics of the British Government to individuals who have undergone the dangers and perils of African enterprise, either for commercial good, state policy, or the more high and lofty considerations—the interest of humanity.

Sierra Leone, July, 1841.

In explanation of the inadequacy of the allowance offered me to undertake the mission to Teembo by Acting Governor Carr, I must state the fact, that the Colonial Governor cannot make a grant for any purpose exceeding £200, without a previous sanction from the Home Minister of the Colonies; this was quite inefficient for the purpose, and would not cover the expense of presents to the native chiefs, putting aside personal reward, which, with me, was a matter of immaterial consideration, satisfying myself with the opportunity of accomplishing an adventure so congenial to my heart. The merchants of the Colony seeing this, came forward with a subscription of about £500 worth of goods; this, in addition to the Government grant, enabled Mr. Thomson to proceed, with some

further grants from the Government for presents, while on the road, and especially one of £100 whilst at Teembo, to prosecute the mission to Tego, a distance further, an intention which he had when death cut short his labours. I think I am not far out in estimating that the mission did not cost less than from £1,000 to £1,500 one way or another at the least, which, if it had been granted at first, and undertaken upon a liberal scale, with every facility, it might have had a different result. Mr. Thomson was harassed in his mind, cramped and tied down; his carriers and attendants, liberated Africans, who went with him from the Colony, *hired* and paid by the Colonial Government, in a most ungrateful manner, left him at Darah and returned to Freetown, with the exception of one man named Louis, who remained faithful to him to death, and who brought back to the Colony his son William, a fine little fellow, who, though but 14 years of age, could speak the several African languages, Timmannee and Foula, which proved of the greatest service to his beloved father in the mission. Had Mr. Thomson survived to return to the Colony, he would, alas! have but been spared to meet an affliction of Providence, in the death of his wife, which occurred suddenly during his absence, the news of which I believe never reached his ears. Mr. Thomson was a missionary teacher in the Church Establishment, located at Port Logo, in the Timmannee country, a pious man, a kind parent, and beloved by those who knew him; he could hold the services in the native languages, which he could speak fluently.

Mr. John Thomson, the eldest son, was at the time of his father's absence a temporary writer in the Secretary's office, and, though young, possessed talents, the improvement of which forbode no mean station in life, provided he was encouraged. Both of the sons left the Colony shortly after the demise of their father.*

The conduct of this mission was offered to me, but I declined on ac-

* The immediate cause of the death of Mr. Thomson was a matter of deep conjecture in the Colony, from the known treachery of the natives in the interior, and the frequent recourse to vegetable poison. Louis, his faithful attendant, informed me, in a conversation I had with him on the subject, that his master had been, as usual, drinking milk, at Darah, three miles from Teembo, when, shortly after, he was seized with violent pain and vomiting, retching so loud as to be heard at a considerable distance, and in the greatest agonies, when becoming insensible, he sunk and expired. The circumstances were, I believe, submitted to Dr. Fergusson, who was inclined to believe it an attack of bilious fever; but the real truth will ever remain a mystery. The death of Park from the treachery of the natives at Housa, and the mysterious death of Major Lang at Timbuctoo would, however, lead us to the conclusion that he came to his end otherwise than from natural causes; at least, such is my opinion, formed from observation and intermixing with the natives in town and in the interior. Indeed, the practice of administering decoctions of woods and leaves, as charms, and other superstitious rites, forms no inconsiderable crime in even the British settlement at Freetown, where instances have occurred of fatal results both amongst the natives and the Europeans, as in the case of the Assistant Superintendent of the Liberated African Department, Captain Terry, who narrowly escaped death, poison having been put into some soup by his cook, a native from the Mozambique, who, on its being detected, drunk of the soup, and died within a few hours.

count of the inadequacy of the allowance, £200, to cover all expenses, presents, &c. Mr. Cooper Thomson, Church missionary, afterwards accepted it under Governor Fergusson, and died at Darah, three miles from Teembo, while on his return home; his son William, a boy of fourteen, survived him, and arrived safe at the Colony.

The next consideration is, would the advantages arising from such a mission be sufficiently remuneratory, a question which appears not to admit of a doubt.

The gold trade, from the want of an established communication, is forced into the French settlements, up the Senegal, Bakel, &c., and other channels, to the loss of British merchants in the Colony; besides, there are many other articles of native produce worthy of commercial attention, were an English market, through agencies or otherwise, established at Teembo, the capital of Footah Jallon, the resort of Arabs and Seracooli merchants, the neighbouring tribes would soon be permitted, through our influence, to make that a depôt for those too distant beyond it (Sego, Sansanding, Timbuctoo, and neighbourhood) for convenient intercourse with the Colony, and it is very probable that British skill and enterprise would soon discover gold in abundance, by means which the natives have no idea of. Once that a familiar intercourse was established and confidence maintained, our baubles, or most humble manufactures, which are their luxuries, would readily be exchanged for what to them is of comparatively little value, which with us would be luxuries in turn; nor can I see the undue advantage over the African or Indian, so insisted upon by the over-righteous, in such barter. A glass bead is literally of greater value to the negro in his own country than a rough diamond, which can never be anything to him but a common pebble; he cannot even enjoy the mystery of its being carbon; whilst the bead gives his nose or ear as much dignity as the finest brilliant does the monarch's crown. "A place for everything, and everything in its place," says the wise American, in a different sense, but it may be equally well applied here. A glass of pure water to the perishing traveller in the desert is worth all the gems that Golconda ever gave, or an umbrella too cheaply purchased for an ingot of gold, though liberality should always govern the transaction where great ulterior profit is to be derived. This aspect changes when the African becomes the visitor, by that road which superior intelligence has opened for him; and in Sierra Leone, London, or Paris, his diamond becomes worth a shipload of beads, with which he returns to his native land, its greatest man, shoves royalty from its stool, and enjoys the profit of a kingdom. This is the philosophy of the question, let Christian principles and generous feelings modify it as they may.

Other advantages would be the possession of a more defined geographical knowledge of the country, which would aid the introduction, not only of commerce in all directions, but, better still, the light of Christianity, and consequent civilisation, the destined annihilators of slavery. Missionaries may pray and preach divine truths to the echo (and they will find that it is indeed to the echo), unless they take equal pains with the inculcation of temporal truths, and persuade the African that his self-interest in worldly affairs can only be promoted by a belief

in that doctrine which has made its followers the rulers of the earth. Convince him he has a life as well as death interest in the arguments preached to his selfishness—which is here meant in its most amiable acceptation—and once that he is made to feel that wealth, power, respect, are the probable consequences, he will, at all events, be puzzled by his own evidence of the Christian's superiority, which very puzzle is a step in advance, to be followed by another and another, until the mystery be solved; or, if not quite clearly so to himself, he is sufficiently shaken in his superstition to willingly commit the instruction of his children to those who have taught him so much, and put him in possession of that which he can perfectly understand—wealth, the god of the black's, as well as the white's idolatry.

Terrifying the idolatrous from worldly considerations — preaching eternal condemnation, if soul and body (at the expense of all earthly enjoyments) be not given up to an incomprehensibility, is to make him cling the closer to his more indulgent belief, by which he may do almost as he pleases here, and fear very little for the hereafter.

The following dialogue will better elucidate the negroes' views upon the subject. One day, in my rambles through the neighbourhood, I entered into conversation with a native returning from a missionary service:—

"Well, Tom," said I, "how did you like the palaver?" (sermon.)

"Ha, massa, me no under'tand white man preachey, he say one ting, do other."

"But how do you know that, Tom?"

"Ha, massa, me know; me hab two eyes, one open when 'toder sleep."

"Well, but that is not saying how you liked the palaver."

"Ha, massa, me no under'tand that, too. Preacher say Gorramighty good. How him good? He make debil strong as himself—so strong he fight wid him; he den make man verra weak, and set debil to beat him, and den he put weak man in hell—burn, burn, burn—because debil make him do what he please. Den preacher say, don't lub dis world; all good tings bad. How can dat be, massa? He say wine bad, rum bad, money bad, maamy (woman) bad."

"So they are, Tom, when indulged."

"Ba, massa, what for den him drink tipsy? What for *him* keep stores in *him broder's* name? Me no under'tand white man's palaver—me no under'tand him."

"But your religion is—"

"Good, massa, good. Great Spirit make debil hop about he touch me; Great Spirit say I make rum, I make wine, I gib foo-foo, drink, eat, much you can. Great Spirit gib woman my wife; one not do, take two, tree, four, five—plenty pickaninnies (children). Me die, Great Spirit no burn, burn, burn, cause me do what him bid me, but send me back to my own country again."

"What for, Tom?"

"For what he please, massa."

Somewhat similar conversations which have engaged my attention,

even from those who profess conversion, show how unreasonable it is to imagine that persons entertaining such consolatory opinions can be persuaded into our faith by approaching their superstitions with (to them) its privations and austerity. Yet such approach is but too frequent, particularly by a class of men who, ruined by irregularities at home, or too lazy or ignorant to gain a livelihood by other means, impose themselves, by affected holiness, upon the well meaning and unsuspicious, who, in God's name, send them forth in all confidence, little knowing that their new *tradesman* is as poorly qualified for the mission (save a few texts and demure faces) as a Mandingo conjuror would be to preach a sermon in St. Paul's—brawlers, who "deal damnation through the land" with unrelenting lungs, to terrify their hearers from too close an inquiry into their priestly qualifications! I do not allude to any particular place. I have been much through the world, and have found such—*passim*. Whilst speaking of a place where missionaries may yet be established, these digressionary observations may not be inutile or irrelevant.

A safe commercial mission to Teembo, and such places, composed of moral men, would lay a surer foundation for religionists to follow upon than they could establish at first for themselves. Merchants so formed would secure an understanding upon mutual advantages; and as morality is not so tender a point to meddle with as religion, the natives would not be startled by too sudden a march upon their prejudices, and quickly perceiving the advantages arising from an ethical organisation, would soon become converts to a system which secured their property, gained them credit, and contributed to the general happiness.

These few hastily-thrown-together observations are not meant to be offered as a systematic plan, but rather as hints from which better things may arise. Should such a mission again be attempted to Teembo or elsewhere, by Government or merchants' enterprise, which is not improbable, I have given my views in the memorial of what it might consist; that is, merely for exploration, "to see how the land lies," or for one on a more extensive scale.

When Mr. Thomson had arrived at the head of the river Malicouri, he was prevented proceeding further toward Teembo by King Alipha, a powerful waterside chief. This delayed the mission some time, the Colonial Government having entered into a pacificatory correspondence rather than proceed to hostile threats. However, the Royal Alipha, "a Triton amongst the minnows," mistaking patience for timidity, and himself for rather a greater man than his correspondent, persisted in his opposition, until at length Governor Macdonald's (one of the remaining Waterloo heroes) forbearance being exhausted, he sent a final despatch, informing the waterside potentate that if further impediment were thrown in the way of the mission he would at once carry Mr. Thomson to the gates of Teembo; after which, Alipha thought it the best policy to withdraw all further opposition, and Mr. Thomson passed to where he finally terminated his earthly, as well as his political mission—"*Requiescat in pace*." And Alipha, the Mahommedan, ere I left the Colony, had paid also the debt of nature.

Indian Corn, Indigo, Cotton, Sugar-cane, and Coffee.—The author was,

on his arrival in Liverpool, questioned by one merchant on the probability of procuring a two-hundred-ton cargo of Indian corn from the coast of Africa, it being a matter of much importance and speculation at the present time, and especially since the settlement of the corn-law question by Government. His reply was, that it could be had in any quantity, and that the supply can only be limited by the demand; were it known there that it was sought for exportation, no limit could be set to its abundance. One important point has to be considered, that it could only be grown in the rainy season, about from June to September, when such is its prolific and rapid growth, that two, if not three, crops can be produced in one season.

A grain called millet, and by the natives *cous-cus* and Guinea-corn, is also abundant, and used as an article of food by them in the neighbourhood of the Gambia.

The author's services were here in question, who would have risked the completion of the cargo in a four or five months' voyage, or have forfeited claim to compensation, had the merchant, equally liberal on his part, offered double pay if he *did* complete the tons specified. A second party, on whom the speculation depended, considered it such an out-of-the-way place (a passage, by-the-bye, only of 22 to 24 days), that the matter ceased, and the author's letter of credit was *omitted* to be returned to him.

The indigo plant grows a noxious weed in the streets and roadsides of the Colony. Coffee, cotton, and the sugar-cane, of the best quality, could be made articles of export, were there enterprise and capital to attempt their cultivation. A soil the best and most luxuriant in the world, and labour the cheapest (fourpence a-day for a labourer in Sierra Leone), yet Africa is deserted, neglected, and its improvement left to the chapter of accidents; thus the primary elements of civilisation and her regeneration are withheld from her.

African Timber, &c.—The article of African teak timber, which is so much valued in England for ship building at our naval dockyards every succeeding year, becomes more scarce. The waterside locations, from whence it has hitherto been procured, being exhausted now, it has to be obtained at some distance in the interior, whence from the great difficulty there is in dragging it through the forests, rafting it down the river and creeks to the beach, and shipping it on board the vessel, the price becomes so enhanced, that little or no profit can be found in the disposal of it at home; and as every succeeding year this difficulty and expense in transit will be increased, it may be a matter of great consideration (if it has not already been), with the merchant, to give a preference to East India teak timber, that on which, although it has to be brought from so great a distance, can be purchased, if I am rightly informed, at less price and quality equal for ship building. Within these three or four years, new timber locations have been found and worked in the Colony south of the town, at a place called Bombatook Fogo, and other sites in the neighbourhood of the Sherbro, within three or four days sail from Freetown harbour, vessels riding at anchor in the Yaurij Bay, an open roadstead entering the river Sherbro. Although the difficulty and

distance of transit from the interior does not exist here to a material extent, yet there is much danger and difficulty in shipping it, the anchorage being so open, and exposed to the rolling of the sea from the north-west or southward, that frequently whole rafts have been known to drift and be lost before making the ship. Timber is rafted upon a wood termed *Cork wood*, from the fact of its buoyancy, and floating upon the waters' surface, knit together by strong ropes, &c. This new place of timber cutting has already been taken advantage of by the merchants in the Colony, most of whom have either factories there, or agents collecting it during the rainy season, for vessels arriving for their cargoes in the dries; but many years cannot elapse before this source will become exhausted, and the trade in the article a losing, instead of a profitable speculation.

A nut called the *ground nut*, has of late become of considerable importance as an article of exportation, by English houses, yet more so by French houses at Ghent, Rouen, and Bordeaux, some of whom have contracted with the merchants of the Colony for large quantities, sending shipping for the cargoes. One house alone contracted for 60,000 bushels in the years 1844 and 1845. From this nut is extracted an oil, pale in colour, which gives a good light, and is so very useful to machinery that the naval steam cruisers on the coast have adopted its use. A ground-nut oil factory exists in the Colony, but from the want of steam power and proper machinery, and bad management, together with the inferior attainments of the African artisan, when compared with the European mechanic, and their facilities in quantity or quality, there is abundant scope for improvement. The price in the Colony is 4s. 6d. per gallon. It is capable of being refined so as to answer the purpose of a salad oil; the nut is prolific, and eaten by the natives and Europeans, boiled, roasted, or in its raw state, and frequently introduced at the table, as we do the Spanish Barcelona nut at dessert. It grows in the rainy season, and is collected in the dry, and sold in the Colony for one shilling to eighteenpence per bushel, in goods and cash. Form of the nut—long, light shell, contains two kernels, covered with a brown rind; when shelled, white in appearance.

MISCELLANEOUS.

Matacong.—This beautiful island, about fifty miles north of Freetown, abreast the Isles of De Loss, was formerly purchased or hired from the King of Soosoo, by a merchant of the Colony, as a location for trade with the surrounding natives, and is now in the possession of his son, Mr. William Gabbedon, whose guest I was. Its surrounding waters abound with fish, and game is found in all directions, with from three to four hundred head of wild cattle, which are shot as occasion requires.

At low water the main land can be walked to, which leads to the Mandingo, Soosoo, and Bagga countries, from whence are procured those valuable articles of trade, gold, hides, ivory, palm oil, &c. Deer also abound, and the oyster beds are considerable. This island is inhabited by liberated Africans and their descendants, but the original proprietors

have been thinned through want of enterprise and a commercial establishment. Canoes from the adjacent rivers and creeks, make it a place of call on their way to Freetown. It was at this island that the present possessor, under a charge of piracy, was arrested, and brought prisoner to Freetown, under a military guard, by the command of the late Governor Fergusson, where he was instantly acquitted, the bill being ignored when coming before the grand jury at the Court of Quarter Sessions.

On leaving this delightful spot, in a canoe commanded by Mahommedoo Samo, and rowed by his sturdy grumatos (sailors), we rounded the western point, intending to make a sea passage to town, but being the rainy season (September), we were obliged to run through the creeks inland, arriving half way up the big Saukney, where landing and having dined, we turned to sleep whilst waiting the tide, from which enjoyment I was withheld by the amusing gambols of the numerous monkeys, and plunging and rolling about of the huge and unsightly alligators; two Kroomen passengers had well nigh become a lunch to these monsters, as both slipped overboard whilst getting on shore, and had a narrow escape, or perhaps guessing by some instinct what they were, they avoided them, one being named Bottle Beer, and the other Ben Coffee.

We started from this rest at night, and made the little Saukney, which is so narrow that we had to douse the masts, and land to drag the canoe from the shore; the wood is so thick that it covered the creek from each side, forming a leafy canopy for some length. Our intrusion into this sacred grove was not very hospitably met, for we were attacked by innumerable hosts of sandflies and musquitos, through whose phalanxes we were obliged to fight our way and study cautiously where we placed a foot, lest it might be on the tail of a serpent, or claw of a scorpion.

The passages of these creeks are startling and interesting to the European, from the circumstance of every canoe's company blowing a kind of ram's horn—for the same purpose as a locomotive whistle—to denote their approach. The unearthly sound, at first, is anything but agreeable to the stranger, from the consciousness of being surrounded in these Pagan wilds by snakes, reptiles, and ferocious beasts, whilst beneath, alligators, "not stuffed," but longing to be stuffed with your amiable person. Morning welcomed us into the noble river Mallicouri, which, like a Niger, penetrates into the interior, when down we dashed, until arriving at the mouth, where the captain and crew, with the exception of one grumato and myself, landed, and proceeding inward, leaving us in so dangerous a situation when the tide rose that I was obliged to sound the horn to summon them to the rescue; but we were obliged to manage as well as we could until their return, which was not till evening, and made me regret that, as the heat left me no superfluous breath, I had spent so many hours in wasting my *sweet* music on the unconscious waters.

All on board, and away again, "Row, brothers, row," until we entered the Scarcis River, where I slept at the hospitable factory of Mr. H. Weston. From this we set off early, hoping to reach town, but, owing to the tide, were obliged to bring up at Bullom, where we were enter-

tained at the strangers' house at Madina. Alimammee Amarah Fendi Moodie, the king, was absent in the war between him and the Timmanees. Next morning we made town, drenched and worn out with a five days' run through the creeks and swamps of a Mahommedan country. And such was the superstition, that it was with difficulty that I got a passage at all, as I afterwards learned, from the supposed ill luck that would attend the canoe were a white man on board, and the question arose of landing me on some sequestered shore, or throwing me overboard; however, the good sense of Mahommedoo silenced these kind intentions, and two years afterwards I had the pleasure of meeting him in Freetown, where I was happy to learn that he had been so successful in trade as to have gained the national *soubriquet* of a *big man*—which is tantamount to saying that he dances, *ad libitum*, to the tune of "money in both pockets."

OBITUARY OF OFFICIAL MEN, ECT., FROM THE YEAR 1840 TO 1845 (FROM THE AUTHOR'S NOTE BOOK).

Europeans.

Mr. Pine, Civil Engineer, old resident, 1840.

Mr. Robinson, Acting Clerk, Secretary's Office, 1840.

Mr. Tegg, Ordnance Clerk, 1840.

Mr. Stowe, Assistant Commissary General, old resident, 3rd Feb., 1841.

Mr. Wood, Civil Engineer, new resident, 27th May, 1841.

Sir John Jeremie, Governor, a four months' resident, 23rd April, 1841.

Mrs. Morgan, the Colonial Chaplain's lady, October, 1841.

Mr. Hoseason, Acting Colonial Secretary, July, 1841, whose wife died 22nd same month previously; short residents.

A West Indian.

Mr. C. B. Jones, Assistant Superintendent of the L. A. Department, an old resident, 6th January, 1842.

Europeans.

Walter W. Lewis, H. M. Commissary Judge, an old resident, 23rd January, 1842.

The lady of Mr. St. George, Ordnance Storekeeper, short resident, 1842.

J. R. Jeremie, son of Governor Sir John Jeremie, short resident, 18 months or two years, 1843.

Rev. Mr. Illingworth, Colonial Chaplain (European); George Abbot, barrister; Charles Cathcart, merchant; B. Scott, Esq., Civil Engineer (West Indians); and an American seaman, drowned by the upsetting of a pleasure-boat, off the Carpenter Rock, Bay of Sierra Leone, 4th July, 1844.

Mr. Stephenson, Assistant Surgeon at Kissey.

Matt. Squires, do. do. do., 1845.

Mr. Knowles, Clerk in the Commissariat, 1845.

Mr. Hughes, Manager of the Western District, old resident, a West Indian.

Governor William Fergusson, off the Island of Madeira, on his passage

to England, 19th February, 1846; a native West Indian (coloured), formerly Staff Surgeon, and a very old resident—25 years and upwards.

DEATHS IN MERCHANT SERVICE.

Europeans.

The house of A. Lemon lost two European clerks;
" H. Weston, one;
" F. Assen, one or two;
" Kidd and Dawson, two or more (Mr. John Dawson died at the Gambia, on his passage home);
" Heddee and Co., three, and the leaving of four or five dissatisfied with their service;
" Effenhausen and Nagal, German Consulate, two to four clerks, and Mr. Nagal's father-in-law.
The wife of Mr. Oldfield, short resident.
" Capt. J. Benett, ditto.
Mr. Magnus, Solicitor and Merchant, 1840.
Mr. W. Prigg, Merchant, old resident, 1844.

MISSIONARY SERVICE.

Europeans.

The wife of the Rev. T. Dove, Superintendent.
" " Badjer, short resident, Wesleyan Missionary.
The loss of two wives of the Rev. Mr. Bultman, Church Missionary.
The wife of Mr. Wm. Cooper Thomson, Church Society.
One Surgeon to the Wesleyan Mission.

(For more particulars see Missionary Records.)

To detail all (which is not in the author's power), would be to make this a catalogue of deaths, at which the mind would stand appalled. "Another, and another, will they extend on to the crack of doom"—the mortality in the navy, army, merchant service, slave captains, their crews, and native Africans, &c. Well may this devoted place be termed a "painted sepulchre—the white man's grave;" and, no doubt, even whilst I write, death is making his usual ravages amongst the population—fresh mounds of earth are daily raised as mementos of mortality!

In bringing to a conclusion these brief pages on the Colony of Sierra Leone, it is a matter of the deepest regret to think that after so many years of exertion how little in reality have our humane and benevolent efforts for the welfare of the African race succeeded, or answered the desired end of the projectors of them; for when we come to reflect upon the immense expenditure which has been lavished with an unsparing hand to destroy that inhuman traffic in man, the maintenance of a naval squadron to guard the coast, the costly civil expenditure, the magnificent salaries of its officers, the sickness and the mortality which has removed so many excellent men from the scene, our hopes almost languish and the heart seems to sink in despair of ever effecting any real or permanent good in the retention of this ill-starred settlement. As for the Colony ever having been a profitable settlement to the British Crown, is entirely out of the question; its revenue being far short of an equality with its

expenditure—"A mole-hill to a mountain, an ossa to a wart;" nay, at the present day, it cannot pay the salaries of the officers by which it is governed; indeed this expectation has, I believe, never been entertained. The cause of humanity in the behalf of the benighted African, alone the primary object sought for, and to accomplish this immense sacrifices of life and wealth have been the consequence, but with success truly disheartening. Its government has from time to time been subject to so many changes, the policy of each governor so varied, acting governor merely holding the reins of office until a successor arrived from home, and ere one governor had become fully acquainted with the minutiæ of affairs, and alive to its welfare and interest, devising measures for its advancement, sickness, death, or absence nipped them in the bud, and prevented their happy arrival to maturity; then a relapse to its former state of retrogression was the painful result. Former Secretaries of State for the Colonies, probably viewing the uncertainties of its government, the difficulty of dictating or particularising measures for the benefit of the Colony, and unacquainted with the effect they might probably produce on the spot, have apparently satisfied themselves with general outlines of measures, leaving the Executive to carry out their plans, however imperfect and immature they might be, and not knowing the baneful effects some measures have had upon its welfare in the aggregate, whilst the existence of the established regulation of the Colonial-office at home, that all reports must be made through the Governor of the Colony to the Home Minister, precludes the possibility of any unfavourable reports of mal-administration or misgovernment ever reaching his lordship's ear through unofficial channels; and should there be one so bold and presumptuous as to think for himself, or that he has a right to exercise the privilege of a British subject in judging upon the acts of the executive, or ambition enough to harbour just and laudable feelings, or pretension for the welfare of the African, he has in some cases become a marked man, and visited with the oppression of an official law. It is, however, now to be hoped, and we have every reason to think, when judging from the watchful solicitude, the comprehensive and enlightened policy pursued by the noble Earl now at the head of Colonial affairs towards our Colonies generally, that for the future Sierra Leone will be no small recipient of his lordship's care and healthy legislation in the eradication of those evils which, like an unwholesome and wasting cancer, have crept into the system and preyed upon its vital interests, retarding its advancement.

MALACCA—ITS MINERAL AND AGRICULTURAL RESOURCES.*

THE re-discovery of Malacca by Europeans (for such in reality was the recent movement in England) appears to have awakened a new spirit of enterprise amongst the inhabitants, and to have opened their eyes to the value of the treasures which they have so long neglected. The Chinese miners, as if already feeling the presence of their great rivals from the west, and foreseeing that their monopoly must fall before their skill and combination, are eagerly extending their works. Four new mines have been opened within the last three months, and unless English capitalists bestir themselves in time they may find all the best stanniferous vallies pre-occupied. We believe the great mining associations of England have for some time had their eyes upon the peninsula. If they deliberate too long they will find the prize snatched from them. An American gentleman lately visited all the mines in Malacca and in the Malayan states to the north and south, and as his report upon some of the localities where tin is now worked is very favourable, it cannot be doubted that the information which he has obtained will be duly appreciated by his enterprising countrymen, whose habit it is to plunge *in medias res*, whilst we sit weighing the pros and cons. It may give our Cornish readers some idea of the metallic fertility of Malacca, if we state that in one valley there are at this moment thirty-nine mines in operation. Can it be doubted that the granitic hills at the head of this valley, the waters from which have strewed its whole length with tin sand, hold numerous rich veins? In one locality, where the ground was first broken so recently as October last, there are now twelve hundred Chinese employed, and recent visitors state the ore to be so abundant that the miners have not yet had occasion to dig six feet below the surface. The Chinese capitalists who have farmed the right of working mines in this locality from Government have hired a considerable number of Chinese emigrants, who lately arrived at Malacca. The energy which they are now displaying is sure to be rewarded by a handsome profit on their contract with Government. The revenue from tin is increasing so rapidly that there is little doubt that ere long the entire loss upon the purchase of the proprietory rights of the old Dutch landholders will be made up from this source alone. What has been considered an improvident measure will probably prove the means of placing Malacca in a position which she could not have attained if the avarice of numerous private local landowners had been interposed between her resources and the enterprise of English capitalists. As it is, there are numerous tracts

* We published an interesting article on Malacca in our number for April last, (vol. x., p. 400,) but we are nevertheless glad to add the above particulars from a late number of the *Singapore Free Press*.

entirely at the disposal of Government, and the very great encouragement which they have given to the intending sugar planters, and the promptitude with which the ground applied for by the Malacca Sugar Company has been examined and surveyed, afford an ample guarantee that every well-considered and substantial project tending to the improvement of the country will be most favourably and liberally countenanced. If any additional motive were wanting for speedy and decided measures being taken by all who have any intention of entering on this new field, whether for the cultivation of the sugar-cane or the working of tin, it may be found in the fact that our present Governor, Colonel Butterworth, is animated by a cordial zeal for the advancement of these settlements, and would, we are sure, give the most effective support to any association of respectability that may be organised for either of these purposes.

So much ignorance and misconception continue to prevail regarding these settlements, and Malacca in particular, that we shall make a few remarks on the latter, for the benefit of our English readers. Those who may be deterred from coming to Malacca from the associations connected with tropical jungles, and the difficulties and miseries of new settlements, must at once rid their minds of all impressions of the kind. So far from there being any room for such ideas, we can assure them that if they will give the reins to their imagination, and picture to themselves in the most attractive colours a great tropical garden, in which plains and vallies are surrounded and intersected by hills covered with an assemblage of fruit-bearing trees, which is literally without a parallel in the world, and in front of this and stretching along a mediterranean sea, a long dark green zone formed of similar trees, and a vast abundance of cocoa-nuts, beneath which thousands of cottages and houses are scattered, and, finally, steep the whole in a pure atmosphere, and ventilate it with refreshing and salubrious breezes, they may approach, but cannot overstep, the reality. It is a sober scientific fact that Malacca presents within itself an assemblage of natural and acquired advantages which no other country within the tropics possesses for the European colonist. For it has not only the essential requisites of a sufficient and most desirable field hardly occupied at all for the investment of capital in its vegetable fertility and mineral wealth, with the adjuncts of proximity to the sea and numerous streams and rivers, but has also all the amenities and facilities, and far more than the beauty, of an old European country.

Six centuries have passed over Malacca since it was found a jungle by the Hindoo Malay emigrants from Singapore. Malayan civilisation during the succeeding two centuries and a-half flourished and advanced under a strong Government, and while the country behind gradually assumed the aspect of antiquity, the coast for many miles was converted into one continuous market place, where a trading population of nearly 200,000 persons were established, and to which vessels resorted from India, Arabia, China, and all parts of the Indian Archipelago. During the next 130 years Portugal, in its palmiest time, impressed an European character on Malacca; and then, for a still longer period, a more kindred nation, the

Dutch, prepared it for the reception of English residents. This successive infusion of new ideas and new habits has given to Malacca a very peculiar and very attractive character. At this day all the races who have one after another predominated, as well as many others who, without possessing authority, have played the most important parts in its history, exist not only distinct, but co-mixed. Prejudices of blood and religion have been broken down or subdued. Each tribe, more or less, cut off from the powerful segregating influences that reign in its native land, and subjected to the fraternising force of common pursuits and constant intercourse, has found nature stronger than prejudice, and Christian and Heathen, Papist and Heretic, Islamite and Unbeliever—men of every tongue, and race, and colour, from the Ultima Thule to the golden Chersonese, and further still—not only live in perfect harmony, but mingle their blood without any misgivings. It would have been a sin against nature, here so gracious and so bounteous, had humanity proved more stubborn. This harmonious diversity, which marks the people themselves, extends to their architecture and all their habits of life. The great cause of this peculiar character of Malacca is the fertility and beauty of the country, and the remarkable purity and salubrity of the air. These circumstances have wedded the emigrants from different nations to the place, so that, instead of hastily gathering what wealth they could (as generally happens elsewhere in the Archipelago, as at Singapore), and returning to their native countries, they have found themselves unable to break their attachment to Malacca, and it has become their adopted home.

The very liberality of nature has, to our utilitarian notions, had its drawbacks. Men who find that their own country possesses almost everything which they can desire, and merely to live in which is pleasure, have no adequate motive for exertion. Nature has been so kind that her children are necessarily indolent, and more prone to enjoyment than labour. Hence it happens that while, on the one hand, the comforts and luxuries of civilised existence may be found in all their fulness and at a cheap cost at Malacca, on the other hand, civilisation has left a wide economical field almost untouched. On the sea shore you have a mixture of the oldest European and the oldest Asiatic civilisations, with everything that can please the eye and satisfy the desires of man. Go a few miles into the interior, and you have backwoods rich in virgin soil, and hollows secreting valuable metals; in a word, everything that can excite the cupidity of the utilitarian sons of the West.

Having said thus much of the advantages of Malacca as a residence, let us take a closer view of the field which it offers for the investment of capital. What we said at the commencement of our remarks respecting its tin needs no addition. The stream tin of the peninsula we believe to be so abundant that ages may elapse before it shall be necessary to have recourse to the expensive process of mining, properly so called. This stanniferous region is so great that, although it has long been wrought, not a single valley has been thoroughly worked, and not one valley in a thousand has probably been touched. The stream tin of Great Britain sufficed for the wants of centuries; and, even with the

vastly-increased demand of the present age, we cannot predict the time when the alluvial tin of a region so many times greater than the stanniferous tracts of Great Britain will be exhausted. But it may happen that veins exist in the rocks of such extent, and so near the surface, as to admit of their being profitably worked even now. In this age of enterprise and speculation it would naturally excite extreme surprise, and even incredulity, that a British Colony on the high road of eastern trade should exist, forming an integral geological portion of the largest and richest tin region in the world, and itself freely yielding ore to every one who, with a common hoe, chooses to dig for it, and which yet has been utterly neglected by the mining capitalists of England. The cause we believe to be that there is much less practical knowledge in England respecting this than almost any other part of the world. It has been the fashion to look upon the Straits' settlements merely as points of trade, and the facilities which their possession affords for the application of capital and skill to the peninsula, with all its agricultural and mineral treasuries, have been entirely overlooked. With respect to the former, we so fully explained the advantages of Malacca in particular about a year ago that we need only refer to our article on this subject. The Malacca Sugar Company has since been formed, and a large and valuable tract lying on the River Lingie has been applied for on their behalf, and will, doubtless, be readily granted by Government. This tract is described to possess soil of superior quality, strength, and fertility. It has the great advantage of having excellent water carriage, being bounded on the north-west side for about three miles by the River Lingie, a broad stream that would admit a 300-ton ship over the bar, and carrying from four to five fathoms of water for a considerable way up its course. Of this land, about 3,000 acres consist of an alluvial plain fitted for the growth of sugar, while the rest is hilly and adapted for pasturage. At no great distance from this there are two or three other alluvial plains, varying in size from 3,000 to 800 acres, well fitted for sugar cultivation. But in other localities there is ample room for far more extended cultivation of sugar. In all parts of the territory there are valleys large enough for plantations on a small scale, but it is to the large plains on the sea-board that we would, in the first place, direct the attention of companies. By far the most eligible is the large plain on the north of the River Kissang, the southern boundary of Malacca. The soil is here rich and deep. We have seen specimens, from which it appears that the upper soil is a black mould of about eight inches, resting on a dark soil of a foot in depth, composed of mingled earth and vegetable matter. The whole rests on the ordinary light clays of Malacca, which yield good crops of rice, &c.; but this is not found pure until a depth of three feet has been attained. From this it will appear that the Kissang soil is of a very superior description. The great advantages of the locality are the continuous extent of flat land, easily drained and easily irrigated, where draining or irrigation may be useful—the circumstance of its having a sea-board of ten or twelve miles, with numerous creeks and streamlets on one side, and a river frontage of about fifteen miles on another—and, above all, the absence of numerous

scattered Malayan farms, which, in some localities, oppose a considerable obstacle to the acquisition of connected tracts for large plantations. On the two remaining sides the tract is bounded by rivers, on the borders of which are broad zones, cultivated, and inhabited, and traversed by a highway. Another highway runs along the coast a little inland, and brings down another belt of cultivation; but this is not so far as to deprive the tract of a considerable sea-board, little inhabited. The extent of available land here may be roughly estimated at 150 square miles. It is probably larger, but no correct survey has yet been made.

It is peculiarly gratifying to have to record each succeeding month the brightening of the prospects of this ancient European settlement, which so long has remained in an apparently dormant and neglected condition. While the native capitalists are busy exploring her mineral resources, and every now and then discovering new and rich deposits of ore, the attention of both European and native capitalists has been equally attracted to the advantages presented by Malacca for sugar cultivation. In addition to a number of private persons who are preparing to engage extensively in cultivation, another company, in addition to the Malacca Sugar Company, has been projected on a large scale, and arrangements have already been entered upon, so as to allow of active operations being commenced immediately upon the company being constituted in England. The gentleman who has made the preliminary arrangements is well versed in the practical details of such concerns, having been long engaged in sugar cultivation in the West Indies, Bengal, and the Straits; and in the latter locality has acquired that knowledge of the natives, their language, and modes of operation, which will enable him to proceed to work at once and with certainty. He has visited Malacca and selected the ground, and proceeds to England by the present mail, there to complete the further arrangements.* The locality chosen is in the immediate neighbourhood of Malacca, and consists of a fertile tract of alluvial plain, on which 5,000 acres have been provisionally arranged for with Government. It possesses great facilities, in an unlimited command of water, for purposes of transport and manufacture, and abundance of wood for fuel. Its vicinity to Malacca will be advantageous for ensuring labour, and being bordered by an extensive plain, at present cultivated with rice, will permit of the cultivation and manufacture of sugar being prosecuted to any extent required, either directly by the company, or by contract with native planters. The Chinese are already engaged to commence the planting of cane to a considerable extent, so that the company, when ready to begin cultivation, will find a large supply of cane ready provided for their purposes. There is ample room in Malacca for this and many more undertakings of the same kind, and we shall, therefore, rejoice to see it speedily put in operation; and of its success no doubt can be entertained, if moderate prudence is exercised.

* The gentleman here referred to is, we believe, Mr. Leonard Wray, who is preparing for early publication a useful and important work entitled the "Practical Sugar Planter."

EMIGRATION TO CANADA CONSIDERED, IN A LETTER TO THE LEGISLATURE OF THE PROVINCE.

Hon. Gentlemen—The present emigration, whether considered in its causes and its afflicting consequences, or in its effects, both immediate and remote, on the welfare of Canada, is a subject of such vital importance, that, to be practically and successfully dealt with, is second to none that has ever engaged the attention of the Canadian people.

Much has been written, and well written, on theories of Emigration, as well as on detached portions of plans to be carried out practically; but the limited action on all such proves, that it is a subject which, to be energetically undertaken, must be presented as a whole practical one, where both the design, practical working, and successful results, can be clearly comprehended before commencing, and that will afford such certain encouragement for prosecution, as to leave not a doubt of its progressive and ultimate success.

That we can much longer fold our arms, or go on theorising, cannot be, for the subject is upon us with all its general afflicting and disturbing consequences, if not properly and promptly dealt with; or, on the contrary, I believe, with happy and prosperous consequences, if prompt and proper measures are adopted for its successful management.

That the following plan cannot be materially improved, I am very far from being conceited enough to think; indeed, a respect to brevity compels me to omit many details, but such as it is, I respectfully present it to you, as the views which thirty years' experience as an emigrant in Canada has enabled me to form.

My plan will be embraced under two heads: The emigrant's ultimate settlement and home on some of the wild lands of the province; and his immediate and compensating employment for a short time.

As a foundation for the former, I will first call your attention to that extensive block of land, generally known as the Saugeen Tract, or Owen's Sound Territory. That tract, as now in the hands of the Government, comprises about one million six hundred and eighty thousand acres of land, which, for excellent soil, timber, and water, and, I believe I might say, climate, is second to no tract of an equal amount of acres in Her Majesty's North American provinces. Indeed, so well is the character of the soil ascertained, that nothing will be hazarded in stating, that twenty thousand acres of poor land cannot be found in the whole tract.

When Surveyor-General of the Province, I had a plan made for the subdivision of the block, which was in a general way sanctioned by the Governor in Council, and a few townships partially surveyed; to which plan I would respectfully beg your reference. It divides the blocks into thirty-three or four townships, with a leading settlement laid down, parallel to the

Owen Sound road, and to be settled on similar conditions; and from both of which roads all the townships in the tract could be conveniently reached. Each of these townships, when fairly settled, would maintain from eight to ten thousand souls, making a total number of from three hundred to three hundred and forty thousand persons.

There may be next added, a nearly equal number of townships up the Ottawa, and in close proximity to that river, where the soil and climate, if not quite so good as the fore-mentioned, is yet excellent, while it is in possession of other substantial advantages connected with the lumbering business. In this locality, a nearly equal number of settlers could be advantageously located.

I will only further now add (although there is a vast quantity of good land in the direction), one range of townships in rear of the settled parts of the counties of Frontenac, Lennox, and Addington, Hastings, Northumberland, Peterboro', and Durham, making fourteen townships, where about one hundred thousand settlers could be well located.

Those three sections of land would provide for the settlement of nearly eight hundred thousand souls; and, perhaps, we should not be far astray in computing the number which would settle on vacant lands in the older surveyed townships, and that would distribute themselves at various occupations in the older settled portions of the Province, at half a million in number, which, added to the three foregoing amounts, would make a total of one million three hundred thousand souls.

That this plan of settlement could be carried, nay, would carry itself, into several sections of Lower Canada, I am altogether confident; but having particularised sufficient to show what can be done, I forbear only on that account to mention specially the different localities below, that naturally appropriate themselves to the object.

The appropriating and parcelling out of every acre of these lands should be religiously confined to the immediate or future actual emigrant or provincial settler only, and on no account should any speculator or non-settler be permitted to obtain a single lot of land in any of the tracts set apart for this special purpose.

In each and every township, and as central as may be, there should be selected a block of four or five hundred acres, for a town or village site, having every practicable advantage for water power, &c., that could be obtained. One hundred and fifty acres of this block might be surveyed into town lots of half an acre each, with wide streets, making suitable reservations for public buildings, chapels, school-houses, and open squares. The remainder of the reservation to be divided into park lots of two, three, and four acres each, according to their proximity to the town. A park lot should be given to every actual settler and builder on a town lot, and to none other. In this way the actual town settler, be he mechanic, merchant, or of any other employment, would have a piece of land whereon to expend his surplus labour, or the spare time that would be on his hands, over what he need expect to have employment for until the township would be pretty well settled around him. Settlers in new towns have much to contend with; and on the score of deserving, where they build respectable houses, if an advantage can be given, there

are none who need it more, or deserve it better. Unless the suburbs of the town come into the hands of actual settlers in this way, they will go into the hands of one or more speculators—a class of persons who are always an obstruction to the prosperity of any place, and who are in no way worthy to reap the advantages arising from its prosperity, as compared with the actual settlers who had made it so, and borne the burthen and inconvenience of a first settlement.

The price of the farm lots should not exceed five shillings per acre, but a lesser sum would be better, while five or six years should be given for payment,—the two first years without interest: and the town and park lots should be disposed of on equally reasonable and advantageous conditions.

The public would lose nothing, either immediately or remotely, by dispensing with the two first years' interest, while it would relieve the settler of an exaction that he abundantly makes good in another way, and which he, as well as most people, consider a discouraging and ungenerous impost. The tracts I have selected would not, likely, under ordinary circumstances, have many lots sold therein within that time, so that little would be lost, in fact, in the way of interest, while the full settlement of the three tracts would at once stamp such a value on the millions of acres of wild lands that lie beyond them, as few persons now think they possess, and create many facilities for their future sale and settlement that have now no existence.

Respecting that class of emigrants which, we may presume, will be pretty numerous, who are able to commence a settlement and pay for their lands at once, the regular discount for prompt payment for two years should be allowed them, lest they should be induced to let their money go out of their hands in another way, and to place them on an equally advantageous footing with the settler whose actual occupancy would necessarily be more slow. And it cannot be too well understood, and acted on at the commencement, that the lots are equally available for selection to the actual settler, whether he be emigrant or Canadian, rich or poor, and be his national origin, religious belief, and political and other views what they may; except that the Government cannot be too cautious, and I would add, generous, in affording proper facilities, and giving ample encouragement to special and actual settlers, who had means and enterprise to lead the way in building mills, and making such other improvements as evidently tended to the comfort and prosperity of a new settlement.

Lands appropriated to such a purpose should be remarkably well surveyed, under specific instructions that would clearly designate the services required of the surveyor. The lines should be all correctly and distinctly run, durable posts indelibly marked and numbered, planted deeply and firmly at each corner of every lot, and a description of each lot, both as to its soil, timber, water, and other qualities, as fully examined by the surveyor, as the nature of his other duties would permit, and entered in his field book. This procedure would cost more in the outset, but in the after proceedings would amply save the extra expense of it. It would cost much less trouble to the locating agents, enabling

them to do their duty readily and correctly, and save the Government the after trouble and expense, invariably consequent on bad surveys. While to the settlers the benefits of such surveys would be incalculable, they could make their selections with far more certainty, convenience, and less expense in the first instance, and would not be subject to the clashing and quarrelling about lines and posts, and uncertainty respecting their improvements, that uncertain surveys would engender in every stage of their proceedings. But while these advantages would result from good surveys in the commencement, settlers would also be relieved from the expenses and vexations of law and bad neighbourhood, that bad and imperfect surveys never fail to entail on a community in after years.

An agent should be placed at the most convenient points to each of the three tracts that could be selected, and who should as kindly and conveniently as possible locate the settler on the lot of his choice. The returns of surveys in his possession would enable him to prevent the settler from making choice of a very inferior lot, while, with ordinary care, and little trouble on the part of the settler himself, in conjunction with such information and assistance as the agent would be well prepared to afford him, he could scarcely fail of making a proper selection.

The lot selected, a location ticket should be given of such a description as would admit of no manner of uncertainty respecting the settler's perfect security for his selection, did he perform his part of the arrangement; one of its provisions should however be, that were no trace of settlement found on the lot at the termination of two years, his location should be forfeited, and the land free for the settlement of another; and further, were there to be no actual residence on the lot at the end of five years, similar consequences should follow. Persons with means for settlement would, it is presumed, go at once to their lands, and probably pay for them down, in which case the agent should be authorised to take the same, and give a receipt for it; but the patent not to issue till it was ascertained that the purchaser had made an actual settlement on his lot, yet as speedily afterwards as practicable, and sent to the agent, to be delivered free of all expense to the settler. Locatees not able to commence a settlement forthwith, would, of course, resort to such remunerating employment as was open to them.

There need be little difference in the manner of disposing of farm and town lots. In the former, the reservation, granting, and encouragement to the improvers of mill sites heretofore suggested, would, of course, be attended to; and in the latter, some conditions might be attached to the disposal of the best corner business lots, to insure that such important facilities in a new town should be at once respectably improved. We need not dwell on the mutual advantage that townships and villages within them, settling about the same time, would be to each other, they could not fail of essentially assisting in each other's advancement and comfort.

We may now consider the second part of our subject—the immediate and compensating employment for a short time, of such emigrants as have not the means of going at once to their lands.

That this class will be very numerous there is little doubt, and that the farming and mercantile operations of the Province cannot afford, to any great extent, their employment, is very truly admitted on all hands. Public works are, then, the only feasible source where it can be sought for. Indeed, so palpable is the latter fact, that there appears no alternative but to find immediate employment, over what the farming and mercantile interests require, or make an appropriation for their sustenance to nearly half the amount that would pay them for labour, or let them perish from want. The latter alternative humanity cannot assent to—the second would be folly, have no end, and be detrimental to all in every way—the first will be wisdom, and, under proper direction, tend to the happiness and prosperity of all.

The public works are, then, evidently, the only resource we can look to, to furnish the requisite employment; but the means to carry them on to meet the pressing exigencies of the present crisis are wanting. How then is this difficulty to be surmounted? I would say make an immediate, a plain, and a direct application to the Home Government, stating fully and clearly your object to be the feasible, nay, certain settlement of the emigrants in comfort and independence, on lands of their own; but in order to be able to do so, it is necessary that the Province have at least a million sterling, at the lowest rate of interest, and most convenient terms of payment, to enable it to prosecute such public works as will afford the emigrant that employment, in which is his only chance of surmounting his present difficulties, or of reaching to anything like comfort in this, his new home; and I will venture the assertion, that every hand in the British Isles would be held up, to give a heartfelt sanction to the Home Government for immediately negotiating the requisite loan for us, and that it will be forthcoming in the shortest time practicable, after it is properly asked.

The poorer settlers having their lands selected, and their locations secured, and public works being in progress, they will proceed instanter to them, if nothing better, or more convenient, presented itself. And, having in their possession sufficient to raise those confident hopes of benefit by their exertions, without which few men cheerfully labour, and with which nearly all men do, it is not too much to presume, that their further career will be strongly marked by industry and carefulness. It is the flood tide to the future independence and comfort of themselves and families; and the class of persons I allude to are never the most tardy to turn such to their advantage. There is no deduction in wages by idling away time, with people so circumstanced; no spending their wages in intoxication; no quarreling, incurring law and medical costs. Such are usually the misfortunes of those who have no definite purpose for their money after it is earned. With the former, all is earned that can be earned—all saved that can be saved. With many, an agreement with a more experienced bushman, who is perhaps already in the settlement, or about to go there, to clear for them a few acres of land, with sometimes putting it into crop and building a log residence, will be aimed at as the result of their first year's labour. Others will hoard their savings and do that work themselves. Before the close of the second

year, particularly those who have a second crop in, you will generally find heading for the quiet comfort and independence of their forest home. But so will the movement be, one after another, until a few years will present the pleasing results of finished, profitable, and beneficial public works, and, better than all, the flourishing independence of a happy and comfortable peasantry.

And can these be the pleasing results of the hopelessness and misery under which so many of our fellow-subjects and fellow-beings are now crowding our shores. We say that, by the blessing of Him who tempers the storm to the shorn lamb, they can and will, and that His signal blessing will prosper and direct all proper measures for accomplishing them.

But reverse the matter, and try and look on what the state of things would probably be, if no efficient and comprehensive means are taken to prepare for, and guide the emigration come, and still coming, to this Province, for most assuredly it does not end with this season. The very dread of a repetition of the general want that forced people to come this year, will have its influence, less or more, for some years. The reflection that we did not do what a bountiful Providence enabled us to do, would be a soul-withering reflection; and that reflection would not be alleviated by the moral pestilence and poverty which such a large number of persons, if left without hope, proper guidance, and proper help, must of necessity entail upon nearly the whole body politic of Canada.

Our plan of settlement does not embrace, and could not well embrace, the too great number of aged and infirm poor, who, either from the pressure of impending famine, or a desire not to be separated from their families, or from other influences, have been forced to seek shelter in Canada. The humanity, the generosity, nay, the justice of Great Britain, cannot leave such people to perish, or throw the necessity of providing for them on this Province. All the human causes of their helplessness and misery have their seat and origin there; and most assuredly, Britain's well-known and well-tried generosity, humanity, and justice, will be promptly and bountifully put forward for their assistance and preservation.

It may not, perhaps, be deemed foreign to the subject to suggest, that the whole surplus proceeds of those lands be scrupulously appropriated to the benefit of common school education, and for no other purpose whatever; and whether a more than equal proportion of it, according to numbers, be devoted to the building of school-houses in the new settlements, and giving such other assistance as new settlements, far more than older ones, stand in need of for education, or it be apportioned agreeable to the census of the Province, such an appropriation could not fail of doing more benefit to the present and rising communities, than were the proceeds devoted to many other objects not so much needing them, and very far from yielding equally beneficial results.

The benefits that public works confer on the poorer class of emigrants, may be seen by a reference to the past. The emigrations to Canada from the years 1819 to 1823, were, in a good measure, located in the townships north-west of Toronto, and though they received no such

encouragement as previous emigrations had, they rapidly formed prosperous settlements, and from the first were a striking contrast, in the little trouble they gave to the Government, compared with that given by settlements where the Government dealt out encouragement very liberally. What was the cause of this? for there was no material difference in the poorer class of emigrants of the respective periods alluded to. It will be found in the fact that the Erie Canal was then in course of construction, and a large number of the poorer class of emigrants availed themselves of that work to earn the means to enable them to settle on their lands; and I am personally cognisant of the fact of a great number of them doing so, who are now as prosperous settlers as Canada can produce, with large clearances, large stocks of cattle, thriving families, and every necessary, almost luxury, of life in abundance. And I may remark it as a well known fact at the time, that the Canadian settlers were the favourite labourers on that work, in consequence of their well-known character for industry and sobriety.

A brief allusion to the history of that important work may not be out of place, as affording encouragement to us to prosecute our own public works.

At the time it was commenced the State of New York was a very different place indeed to what it is in these days. De Witt Clinton, one of the most practical statesmen the United States ever had, was then its Governor. For several years his keen eye saw the great advantage that connecting the waters of Lake Erie, at Buffalo, and the River Hudson, at Albany, by a water link, would confer on the future prosperity and importance of the State; but he could find few persons beyond those more immediately interested in the work, to agree with him. By the influence of his great popularity, and well-known sagacity, he did, after many efforts, obtain a very small appropriation for the work, while it was stated at the time, that few persons making it had much faith in its results. This small appropriation he sagaciously had applied to a long level reach, where no lock was required, and so economically did he see it expended, so much was done, and so useful appeared this small section of the work, though its benefits were almost local, that when another appropriation came to be asked for, he had easier work, although he was never without having doubts and difficulties to contend with till the work was finished. It was not, however, very long, before it gave evident indications of the benefits it was capable of conferring; and, though its far-seeing projector did not enjoy life long, he lived to see the work that he had so much trouble to get the State to embark in, become a general favourite, forming a rapid sinking fund for the liquidation of its cost; relieving the State from other burthens, and yearly outstripping, in its beneficial effects, the ardent anticipations of its most sanguine friends. But it is not simply to revenue, or the effects produced by its surplus, where we must look for the benefits conferred by the work. Where would be the prosperous cities, towns, and villages that now crowd western New York? Where, and in what circumstances, would be the farming population, who have so densely settled it, and caused the wilderness to teem with all the comforts and luxuries of life?

Where would be the numerous steamers and sail vessels that now navigate the lakes, bringing the overflowing productions of the great west to the Erie Canal for transhipment, affording direct and indirect occupation and profit to tens of thousands? What, comparatively, would be the trade of the city of New York, and the number of sea-going craft therefrom, had the immense productions of the west not had the Erie Canal as a channel of transport to that city? Let the mind satisfy itself on these points, and numerous others that might be put, and our questions will be answered. But in doing so, let us take into the consideration that more Erie Canal tolls have been collected in one week this season than the sum which the original projector could at first, with all his deserved influence, get appropriated to the work; and further, that the number of boats now employed on the canal, and the short canals leading to it, if placed close together, stem to stern, would extend a greater length, computed to be over fifty-three miles, than the original projector could get appropriated to make miles of the canal, if a corresponding number of the locks to the distance be included; though it was in the first instance of very limited dimensions. It had, however, long since to be enlarged; and the transit trade from the great west is now crying out for more room, while, even yet, that trade has seen but the morning of its extent.

We have already shared largely in the transit trade which that work brought into existence, even with our imperfect and restricted navigation. But complete our vastly superior water communication to tide-water, and remove all unnecessary restrictions from the trade of the great west in passing through the Canadian Channel to the ocean, and most assuredly a vastly increased proportion of it will seek for its transit that freedom, cheapness, and convenience that it never fails to seek; that always fosters it, and that our inland water highway can certainly confer upon it. So great, I am satisfied, will this trade be through our waters, that I think nothing is hazarded by the opinion, that the Welland Canal alone will produce in tolls the year after it is completed, a sum of fifty thousand pounds, and in an increasing ratio of ten thousand pounds a-year, until it reaches a hundred thousand.

The preceding remarks will perhaps be considered unnecessarily extended; but the employment of the poorer class of emigrants by means of public works, is in my view so indispensable to their comfortable settlement, or settlement at all on land, that they have urged themselves upon me, inasmuch as the procurement of means, and inducements to prosecution, naturally connect themselves with the profits of such works, and the benefits they are capable of conferring.

The necessity that exists for prompt action, but too seriously proves itself, and for unanimous action the proof is little less apparent. The perhaps homely, but very significant motto of our neighbours, "A strong pull, a long pull, and a pull altogether," would be an excellent one for us in this crisis. We need not scrutinise too closely, *all* the general effects, which future years may show as resulting from the action we are now under the imperative necessity of taking; for while the general maxim, that as individuals, "a man usually reaps as he

sows" holds good, yet in guiding large communities, involving comprehensive legislation, and where the hand of Providence is evident for chastisement or otherwise, we should never forget that

"There is a Providence that shapes our ends,
Rough hew them as we may."

I have the honour to be, gentlemen,
In all respect and sincerity,
Your obedient humble servant,
THOMAS PARKE.

Port Colborne, 24th July, 1847.

AUSTRALIA AND ITS CHARACTERISTICS.

BY THOMAS M'COMBIE, ESQ.

(Concluded from p. 41.)

THERE are at present five separate Colonies in the vast continent named New Holland, viz.:—New South Wales, South Australia, Western Australia, Port Essington, and North Australia. New South Wales includes the fertile district of Australia Felix, now about to be formed into a separate Colony. Port Essington is hardly formed, and contains only about 70 inhabitants, and North Australia is just forming under the superintendence of Colonel Barney.* New South Wales is the once famous Botany Bay, where the first Colony of convicts were planted under Captain Phillip, and it has a very extensive population, formed by the descendants of convicts, and by free emigrants. Transportation to this Colony has been abandoned for many years, but no inconsiderable portion of the population consists of expiree convicts. Port Phillip has been peopled by free emigrants, and by expiree convicts and their descendants, from Sydney and Van Diemen's Land. South Australia was started as an independent Colony by home capitalists, and the greater portion of its population is free; not a few expirees have, however, emigrated thither from Van Diemen's Land. Swan River has been settled for a number of years, but has made but little progress; its population is limited, and it does not appear to be a very popular Colony in the Mother-country. Port Essington is yet only a settlement, but from its capabilities and its situation it is well calculated to be a great emporium of commerce, and a field of enormous productiveness. North Australia is scarcely founded, but we understand it is to be a penal Colony, managed upon some novel plan. These form the settled portions of the vast land known as Austral-Asia, and the enquirer, on taking up the map, will at once discover that they

* This was written before the abandonment of the proposed northern Colony.

make but mere patches on the coast, but the great progress of discovery in Australia during the last few years, and even the progress of Colonisation in and around that land, promises much for the future; Colony after Colony will be settled, and the resources of the country be quickly developed. The financial disarrangements of 1842, which spread such a gloom over society, delayed the progress of each of the Colonies to no inconsiderable extent; but it is to be hoped that such a scene of disaster and woe will not again be looked upon by the Colonists. The population of New South Wales, according to the recent census, is 187,413, of this number the Port Phillip district contains about 32,879, and the Middle District 154,534. By the last census we can find the population of South Australia amounted to 24,000, Swan River has but a very limited population, Port Essington numbers 70 Colonists, and North Australia is but forming, and its situation not definitely fixed upon.

The capital consists of stock, mines, cultivated and reclaimed land and crops, agricultural implements, manufactures, houses, ship's merchandise, and coin. In many places coal abounds, and the woods indigenous to the country are superior to mahogany when polished. The majority of the Colonists are engaged in rural pursuits, and earn a subsistence by grazing and farming, the Colony being eminently fitted for the rearing of stock. In 1810 the sheep in New South Wales only numbered 25,888; and in 1846 they have increased to 6,859,031; the cattle are rated at the same period at 1,348,022, and the horses at 82,303. The number of acres in cultivation and under crop is 163,331; the wool exported in 1846 amounted to 19,000,000lbs., valued at £1,280,000. The total amount of exports from New South Wales is stated to be during that year £1,555,986; the imports into the Colony amounted to £1,233,854.

The foreign trade has hitherto been principally with England and India, and has consisted in exporting the productions of the country, and importing the articles required for the consumption of the Colonists. The high price of land has hitherto prevented many small capitalists from embarking their capital in branches of industry arising out of land cultivation. The Colonists own a number of vessels, but the sperm fisheries seem to be declining, and the Colonial shipping is now engaged for the most part in the Colonial trade; there are boats, however, engaged in whaling in many parts of the coast. A rising country like this daily changes its aspect, and we cannot but think there are prosperous days yet in store for Australia. The great drawback is the want of water communication; but a vast population can be settled in the first instance on its sea-board, and as capital and population increases, the skill and resources of the Colony will increase also; and communication with the interior will be accomplished by means of railways or canals. The first impetus which will be given to the trade of the country will be by steam communication with England, India, and the adjoining Colonies, which will, by contracting the distance, increase commerce to a wonderful extent; and as capital increases the two districts of Sydney and Melbourne will be doubtless

connected by a railroad, which will open up markets and new sources of wealth to thousands of our Colonists. A writer in the *Sydney Morning Herald* has stated that if stock increases as fast as at present, the whole of Australia will be filled in a very few years. When the country is densely covered with stock the Colonists must devote their industry and skill to other pursuits. The writer, some time since, in an article published in the *Colonial Magazine*, said—

"Australia will yet be an independent country; the future mistress—the England, in fact, or the rival of England, in the East. There will spring up here a new empire, which will change the commerce of the world, and force it into new channels. Australia produces wool, and New Zealand flax, and as coal is found in great abundance, over the whole face of the Australian continent, there will be soon manufactories for converting the grand staples of the two Colonies into woollen cloths and coarse linens. The advantages Australia possesses as the seat of manufactures are evident. Notwithstanding the scarcity of labour now, from the cheapness of provisions, the price of labour must fall. In the year 1842 the average price of beef in the Australian cities ranged from 2½d. to 4d. a pound; mutton 2d. to 3d. (making allowance of course for the usual advance towards shearing time, which, however, is followed by a great decline after the fleece is taken off)—the price of flour has ranged from 14s. to 24s. per 100lbs. Australia, being in almost close proximity to British India, China, and the Spice Islands, where a great demand exists for woollens, the Australian manufacturer having neither freight to, nor from, England, nor any charge whatsoever, could in a very few years silence all competition."

Australia ought to manufacture cloths, linens, cottons, as all are produced there and in New Zealand; she might almost monopolise the trade of India, China, and the South Sea Islands, and be, in short, the Britannia of the southern hemisphere; the wood, both in Australia and New Zealand is eminently fitted for the building of vessels; situated in the Pacific and washed by the Indian Ocean, she is the centre of a new and rising world of commerce with Van Diemen's Land and New Zealand; and the Polynesian and Indian Islands, close at hand, and lying halfway between Oregon and South America, and India, it cannot help being a rich and important country. All the elements of wealth abound—a fruitful soil, a genial climate, vast mineral and vegetable wealth, all wait for the skill of the labourer to manufacture them into value. We wait for population; this is all we require, and our resources are daily being crippled for want of labour. The scarcity of water is by no means so great a drawback to the progress of the Colony as some have supposed; indeed, those parts of the country which are not watered by nature may easily be irrigated by art. Artesian boring has not yet been resorted to, and when water has not been found abundant, the settlers have supplied themselves from reservoirs which they have filled during the rainy season, and which is even purer and more healthy than river water; many of the largest and most arid plains in the interior are to our knowledge bountifully watered, and although some are very dry in the intense heat, yet we never heard of any accident to stock for

want of water (similar to what we read of in South America), during our residence in the Colony. So far as New South Wales has been surveyed, it has been divided into counties; and the land subdivided into sections, and within the townships into suburban and town allotments. Beyond these surveyed portions of the Colony the land is leased to the squatters, who pay a license for running their stock on Crown lands; they were formerly compelled, in addition, to pay an assessment on their stock, but the act by which this was levied having expired in 1846, the Legislative Council of the Colony refused to renew it. The counties have been very judiciously laid out along the sea side; and they will speedily be filled up with an industrious rural population, who will form a happy and thriving community.

The towns are rapidly increasing in wealth and intelligence; Sydney has a population of 38,358; Melbourne has 11,000 souls already within its incorporated limits; extensive manufactures are carried on in each of the Colonial towns, and the inter-colonial traffic is already considerable. The society is acquiring a tone of refinement; it is composed partly of free emigrants and their descendants, and of emancipated convicts and their children. Many of the convicts were remarkably fortunate in the old *regime*, and their former degraded position has not been regarded as an insuperable bar to the social advancement of their children. True, where known it might create some feeling against them, but it is quite possible for them to overcome the suspicions of their fellow Colonists by upright behaviour; if they are not willingly received into the bosom of good society they float most buoyantly on its surface. Convicts when they acquire property behave remarkably well; they have then a stake in the country, and it is their interest to stand well with society. The free emigrants and their descendants are a most respectable class; they are not, however, frequently so well off as the wealthy emancipist class, but those who have come out free and their children, who are frugal, industrious, and well-behaved, have deservedly a very high standing in the Colony. Every attention is paid to the education and religious training of the rising generation, and many excellent and highly educated persons are engaged in the education of the young.

The climate of Australia is one of the finest known; and with the exception of the hot winds during the summer months, which are peculiarly disagreeable, there could not be found a more desirable country to live in. These winds generally last for 48 hours, but they sometimes continue for seven or eight days. When these intense heats succeed a wet season they are most devastating in consequence of the humid atmosphere, undermining the health of all the inhabitants; if they come with dry weather they do the health of the inhabitants no injury. The climate is remarkably healthy during the other seasons; in fact, the sky frequently remains serene and unclouded for weeks, and presents to the eye an unbroken arch of azure. The rains fall very heavily at certain seasons, but there are not periodical rains as in the tropics; snow occasionally falls, but perhaps not above once a year in most parts of the country. Marshes are very numerous, and there are not a few

lagoons or small lakes, but there are few diseases in ordinary weather; nay, I have known parties who have lived in swamps during long continued wet seasons say, that they never were in better health; the heat does little injury except when it succeeds rain, the usual dryness of the atmosphere makes it less destructive to the constitution than might have been anticipated.

THE CRITICAL POSITION OF OUR WEST INDIA COLONIES.

[The following article was shut out two months ago, and although now somewhat out of date, is published at the request of the writer.—EDITOR.]

WITH an explanation, showing his delay to have been both judicious and politic, Lord George Bentinck, yesterday, the last day of the Session, and on the eve of a general election, presented to the House of Commons a petition from Jamaica, which, little as it may be thought to interest the British public at home, involves principles of vital importance to the British West India Colonies. As his Lordship has pledged himself to move, at an early period in next Session, for a select committee to inquire into the subject, we may expect that he will not fail to strengthen his position with the host of incontrovertible facts with which he can readily be furnished.

It would appear, by the reply of Mr. Hawes, that the determination of the people to obtain sugar at a low price justifies any amount of tyranny and injustice towards our Colonies, and sanctifies our unparalleled inconsistency and selfish cruelty in stimulating, as we have done, the slave trade; in increasing, as we have done, the severity of the slave's murderous toil, and sinking him, if possible, still lower into the depths of demoralisation. Another proof that men, collectively, and in their legislative capacity, readily commit acts, the very idea of which, individually, and in their private position, they would scout and scorn.

Is the Under Secretary for the Colonies aware that the average existence of a negro, from the date of his importation into Cuba, does not exceed eight years? Is he aware that these victims of the damning lust of gain are worked, with scarcely intermission, from sunrise to sunset (twelve hours), and that they are locked up at an early hour, and their food is thrown in to them with less care and kindness than is bestowed on English hounds? Is he aware that, on many estates in the Spanish Colonies, hundreds of men are living without there being with them a single female? Has he never been told, that to such extremities were the Cuba planters reduced for want of a market for their produce, that, had England persevered a few years longer in her exclusion of slave grown sugar, they would have been obliged to abolish

the slave trade and emancipate their slaves, or abandon, to a great extent, their cultivation? So convinced were the Brazilians of their critical position, that they had it in serious contemplation to establish perfect freedom, in order to gain admission into the British market.

I returned, in April last, from Jamaica, after a stay of five months in that magnificent island, and a sojourn of, altogether, fifteen months in the British West India Colonies. During the whole time I was in close and constant communication with all classes of the community, and availed myself of the excellent opportunities I had of visiting the estates and interior of every Colony of importance, including British Guiana. I left England a free trader, and I returned with the same ideas. This does not embarrass me. I consider slave labour, with reference to tropical agriculture, to be altogether without the range of the ordinary principles and established axioms of political economy. Although by no means blind to the great advantages to be derived in our sugar Colonies from more skilful and economical farming, a more careful cultivation of that beautiful and grateful plant the cane, and a greater use of the aids of science in the conversion of its juice into sugar, I conceive and know it to be unfair and unreasonable to expect our planters—thwarted as they are in all their plans by the difficulty of securing steady continuous labour, and paying, as they do, high daily wages for a half-day's work—to compete with their rivals in Cuba and Puerto Rico.

I grant that our West India agriculturists, like their brethren, the corn growers of England, are inclined to be unduly alarmed by an idea of the wonderful powers of production possessed by their foreign competitors. Allowing that their fears are somewhat exaggerated, I yet contend that they are, to a great degree, justified, and well founded.

We may not be able to repair the fresh wrong we have inflicted on the African race; we may not be able to restore to our West India Colonies the protection which they once enjoyed, but we are bound to assist them and put them in a position to fight their battle on more equal terms. We have drained from them by one channel the stream of prosperity: we are bound to return it by another.

The Colonies want labourers—they are wofully deficient in these sinews of a country—this is a truth that cannot be blinked. Science and economy are powerful engines of improvement, but on the whole they increase rather than supersede the demand for manual labour. What has Government done to supply this want? after keeping the West Indians, for months, on the tenterhooks of expectation and suspense, it has refused to permit them to exercise their own enterprise (under proper supervision) in procuring labourers from the coast of Africa, but has appointed *one* steamer to that duty, the "Growler"—a name aptly representing the grudging will with which this one small act of justice has been done.

Mr. Hawes' remarks respecting the increasing prosperity of Mauritius under the present state of things, are not justified by the actual position of that Colony. However, for argument's sake, admitting such to be the fact, it can only be accounted for by that Colony's enjoying, and having for some years past enjoyed, the very privi-

leges and advantage for which the West Indies are contending, viz., permission to obtain, under certain restrictions, free labour, by private enterprise. It is true that the Mauritians have been prohibited from supplying themselves with labourers from the coast of Africa, but the proximity of India enables them to obtain Coolies at a small expense. The cost of a Cooly's passage from Calcutta to Mauritius does not exceed £5 sterling. The cost of a Cooly's passage from the same port to the West Indies amounts to £16. The expense of returning him at the end of five years will be proportionately much greater. Jamaica, after a trial, far too long, has abandoned the experiment as ruinous. British Guiana and Trinidad, relying on their remarkably rich soil, are persisting in it—they are playing a desperate game: I hope they may succeed in conquering their difficulties. To return to Mauritius—the system of agriculture in that Colony I know to be very rude and imperfect, and far behind that practised in the West Indies; the superiority, therefore, in position and prospects, implied by the remarks of Mr. Hawes, is only to be accounted for by the advantages I have referred to.

When men take upon themselves the duties of practical statesmen, (and every statesman to be useful must be practical), they ought to be prepared to apply to particular sores, in the great body of the empire, prompt and special remedies. Our West India Colonies are in a critical position. The scheme of emancipation, the conception of a noble, free, and generous nation, anxious to repair the wrong of two hundred years, by the inconsiderate haste and rash precipitancy with which it was put into execution, prostrated and nearly destroyed the prosperity of our fellow subjects in the Antilles, who for years previously had been the victims of the most cruel and unmanly misrepresentation, emanating from the ignorance of a mania-stricken and morbid philanthropy, and the unscrupulous ambition of unprincipled political adventurers. They are beginning to recover themselves; a few more years would restore them to healthy vigour; when at this very crisis of their existence, impelled by clamour and regardless of justice, we deal out to them further discouragement, further crushing difficulties—yet the Colonists do not despair; with manly fortitude and energy they are labouring to save their ship from wreck. They *literally want hands* to help them to work her. Give them this assistance and their shattered vessel will yet ride out the storm.

ANGLO SAXON.

July 24, 1847.

COLONISATION, A SAFE, NATURAL, AND EFFECTUAL REMEDY, FOR NATIONAL DISTRESS.

NO. III.

"You ask, with an air of astonishment, '*Is, then, England in a worse condition than any other country? Are we really, then, the most depraved and wretched of mankind?*' I repeat, England is the black spot of pauperism. What more need I say? This has not been denied. But this is not all; it is the bright spot of wealth. You are not wretched in your means; it is in the greatness of your means that is involved the imbecility of your minds. You are rich in science, in learning, in literature—you are rich in the most unparalleled national and local advantages; and it is these that render awful the existence of such social degradation. You must either love that which is wrong, or know not how to do that which is right; and that pre-eminence which you have alike exhibited in wealth and misery, distinguishes you amongst all nations for the possession of individual dexterity, and for the absence of collective wisdom."—*Extract from a speech delivered before the members of the Philosophical Society, at Portsmouth, Feb.*, 1845, *by David Urquhart, Esq., M.P.*

To the Editor of the Colonial Magazine.

Sir—In my first of this series of letters on the subject of Colonisation, I made the "Returns of the assessed value of the various townships in Western Canada, which were settled by pauper emigrants from Ireland, between the years 1825 and 1828, at the public expense," moved for by Mr. Poulett Scrope at my request; and the debate on Lord Lincoln's motion for a commission to inquire whether Colonisation might be made applicable for the relief and benefit of Ireland; the subject matter, at this crisis of national calamity and exigent distress, of a variety of argumentative statements—1st, setting forth the appalling evils which Colonisation was to remove; 2nd, proving that Colonisation was fully effectual for that purpose; and 3rd, pointing out the mode by which a safe, satisfactory, and efficient method, might be well considered and carried into operation.

In my second letter I further enlarged on these themes, as being of an interest the most momentous; and I felt it my duty, as one who had discharged with fidelity and zeal the office of Her Majesty's Emigration Agent for Canada, to recal public attention to the Colonisation misdoings of Lord Stanley and Edward Gibbon Wakefield. To the former *as a Colonial Minister*, who had been branded by Buller in Parliament because "his conduct whilst in office had rendered the people of England *averse* to any systematic plan of Colonisation;" and whose omission whilst in power to provide outlets for the poor and needy of our fellow-countrymen from the long foreseen and predicted famine visitation, which, according to the Irish *Nation* newspaper, has already swept two millions of British subjects into the grave, deserves to concentrate upon him the

SÆVA INDIGNATIO of all ranks and classes who think rightly in the land. And to the latter ARCH VAGABOND I particularly directed public attention, as I have had frequently occasion to notice that his movements, like the mole, were always unseen, and only to be discovered by the mountains of dirt they heaped up, and whose stratagems, shiftings, manœuvrings, and juggleries, once led a British functionary to declare that, "if ever Canada was lost to Britain, it would be through the instrumentality of that man!" Adverting to the Scylla and Charybdis in Colonisation matters, which these creatures by their combined incompetence and chicanery had created, I closed my last letter by saying to Earl Grey—"*Beware.*" The ink, however, was scarcely dried which traced that brief, but emphatic word, before the rumour concerning the perpetration of some new Beauharnois juggle received confirmation by the appearance of the advertisement of the St. Andrews and Quebec Railway, under the auspices of a board, having at its head the president of "THE NORTH AMERICAN COLONIAL ASSOCIATION FOR IRELAND," of which body that incomparable charlatan, juggler, mountebank, and humbug, Edward Gibbon Wakefield, is the centre and the soul. The writer of the animated and convincing article in your former number, entitled "COLONIAL RAILWAY PROJECTS—NEW BEAUHARNOIS JOB," relieves me in a great measure of the task of exposing this odious and jobbing Land Company nonentity; nevertheless, as the New Zealand Company, and the said North American Colonial Association for Ireland, though *arcades ambo*, are the Colonisation associations which the Colonial Department, under the management of the ex-member for Lambeth, appears to delight to honour, I will, in parallel columns, bring under the review and notice of your readers and the public some memorable and startling notices of their proceedings by the public press and others:—

NEW ZEALAND COMPANY.

This company expended half a million sterling in New Zealand without having title to a single acre of land.

They stated their claims against the Government, Aug. 8, 1845, as follows:—

Emigration, hire of ships, &c.	£233,357
Purchase of land	74,745
Public works	40,508
Expense of surveys	60,041
Miscellaneous	71,580
	£422,233

The special committee which inquired, in 1844, into the proceedings of the company, concluded their report by a series of resolutions, the summary of which was, "that the conduct of the New Zealand Company in sending out settlers to New Zealand, not only without the sanction, but in direct defiance of the authority of the Crown, WAS HIGHLY IRREGULAR AND IMPROPER."

Mr. F. A. Carrington, a gentleman

NORTH AMERICAN COLONISATION ASSOCIATION FOR IRELAND.

The *Times*, May 25, 1844, had a leading article on this company, showing that it had then existed for ten years, and done nothing but purchase Mr. Edward Ellice's Beauharnois property for no less a sum than £150,000.

Edward Gibbon Wakefield, for his advocacy of a line of canal through this property, by mesmerising and humbugging the members of the Canadian Legislature, "insisted upon (and obtained) his own terms—viz., £12,500." "Such is the price of legislative advocacy!" The company bound itself to pay him £9,500 in July, 1846, and £3,000 he consented to take in shares. The company has existed since the year 1834, and "has as yet fulfilled no one object of its creation. It was a Colonisation company, but it has not colonised a single man!" The affairs of the company in May, 1844, came prominently before the public, in

who resided in New Zealand for several years, in his evidence, charged the New Zealand Company "with putting forth, through *its directors*, statements to the public of immense tracts of country, whilst, in fact, no such purchases had been made." He cited a letter from the late Colonel Wakefield, the agent of the company, showing "that nineteen days after the purchase was alleged to have been completed, and the deed executed, he (Colonel Wakefield) was only *commencing* the negotiations for buying the lands in question from the chiefs."—See *Times*, April 1, 1845.

The whole debate in the House of Commons went to expose the roguery and jugglery of the Wakefield Board of Directors, and is well worthy of close attention. In his speech, Captain Rous distinctly charged the New Zealand Company with having sold £120,000 worth of land, when, in point of fact, they had not one single acre legally belonging to them.

consequence of charges adduced by Mr. Morrison, M.P., the chief of which were —"The non-publication of the account in a full and detailed manner, so as to show ALL the transactions; the payment of an excessive sum to ONE of the agents; the purchase of 500 shares at par." The price of the property was £150,000, out of which THE agent, Edward Gibbon Wakefield, was to receive 5 per cent. *pari passu*, with Mr. Ellice's receipts, or £8,000 in all. On the 28th of May, 1844, the *Times* had another fulminating article on the subject—"That liberal investment of capital and judicious superintendence assist Colonisation and benefit the Colonist, we are very far, of course, from denying; but if any person thinks that these objects can be attained by a company whose be-all and end-all it is to monopolise the marketable land, and to job it out again at an advance of prices; to such a person we say, only look at the case of the North American Colonisation Association for Ireland."

Again, "These companies not only buy up the commodity, but they *afterwards import the consumer*. They create the demand for their own monopoly. They first raise the price of land to their own standard, and then ship off in loads the emigrants who are to purchase it, having first employed something very like kidnapping in order to seduce them into their toils. First they forestall, and then they import, by wholesale, the people who are to suffer by their manœuvres, and this they call—COLONISATION!"

Well, then, with such faults of omission and commission to answer for, the New Zealand Company, on the one hand, procures from Government an engagement, which Parliament has sanctioned, for the advance to them for the service of the first year £28,000, over and above any sum now payable to the company under any former loan; for the second year, of a sum not exceeding £72,000; and during the third year, a sum not exceeding £36,000; in all, £136,000! whilst the North American Colonial Association for Ireland, on the other hand, obtains in New Brunswick one hundred thousand acres of land. All things considered, then, this may, without any overstretch of charity, be considered a *Wakefieldising* of the Government on a gigantic scale! or trying, as the humbugs call it, the *Wakefield system in extenso*. But do I condemn the Government for making use even of such vile, base, and worthless instruments, for carrying forward Colonisation objects, as the two companies under the direction of the "*arch vagabond*" Wakefield? Assuredly not! THE END IN THIS CASE WILL SANCTIFY THE

MEANS. I look to the hordes of starving, pining, fever-stricken, dying wretches, whose wailings outroar the noise of the Atlantic Ocean; and I say to Earl Grey, imitate, if you can, the Christian example of Sir Robert Wilmot Horton, and *go onward* with the systematic work of COLONISATION. And why? Because "the appointed mission of this nation is evidently to people the boundless Colonial empire we possess with a race of men possessing the purest religion, inheriting the richest literature and proudest history, and endowed by nature with the largest share of personal energy and perseverance, moral courage, self command, habits of order and industry; and, in a word, possessing the highest degree of aptitude for practical civilisation of any race which the world has yet seen," or perhaps will ever see. At the same time, however, seeing that two public companies, whose transactions have been of so questionable a character, and whose boards are respectively under the leading staff and guidance of a man who suffered three years' incarceration in a felon's cell in Newgate for "*fraud, forgery, and conspiracy*," I consider the time has arrived, when having deeply suffered in this cause in my person and in my estate, and been shamefully, cruelly, and dishonestly deprived by the Government, even of those expenses which they compelled me to incur in their employment, I may quote the following passage of Sir Richard Broun's speech at the last general meeting of the Baronets of Scotland and Nova Scotia, and expect that some reparation and amends will now be made to me for the foul and disgraceful dishonesty of which I have been the victim:—

"As to Lord Stanley, a public duty demands that I should not gloss over his ministerial doings in this affair. Amongst the Parliamentary documents now on the table is a copy of my recent petition to the House of Commons, as printed with their votes, showing that the destruction of the British-American Association is primarily to be ascribed to inquisitorial practices on the part of the Colonial-office, which throw far into the shade the Post-office espionage system lately brought to light. These practices emanated from the representations of some one connected with the New Zealand Company, or other party, who merits, it would seem, in the eyes of the head of the Colonial-office, protection against the infamy and the punishment which his crime deserves. When this correspondence began, it is to be observed that the British-American Association stood before the country as an organised body, presided over by nearly sixty of the more ancient nobility of the realm. If we had done, therefore, or contemplated doing, aught amiss, the civil jurisdictions of this free country were open for redress. We were no West Middlesex Insurance Company gang, but nearly every man of us were the equals in blood and in honour of the heir apparent of the house of Derby himself. How, then, can Lord Stanley justify his proceedings, seeing that, after his own agent in the port of London had inspected the 'Barbadoes,' and had reported (to quote his own words in Parliament) 'that the ship was well found—that she was perfectly seaworthy—that the necessary provisions were on board—that they were of good quality—and, in fact, that the Passengers' Act had been strictly complied with'—how comes it, I ask, that with these facts before him, and the knowledge

that 'the individual who had given the original information refused to come forward for examination, on the ground that he might subject himself to penal consequences,' he could first so delay by unconstitutional inquiries the sailing of the vessel, as to precipitate the calamities which suddenly engulphed us, and then to pronounce that 'no blame whatever' was attributable to the Colonial-office? But this is not all. Amongst the papers that are now before us, is the copy of a letter addressed by M. Guizot to a M. Gaillardet, *Homme de Lettres* at New York, dated in December last, and couched in these terms:—'Sir—I have the honour to announce to you, that on my proposal, and by a decree of the 20th of November, the King has nominated you a Knight of his Royal Order of the Legion of Honour. His Majesty has desired on the occasion to give you a testimony of his good-will. I felicitate myself on having to transmit it to you. Accept, Sir, the assurance of my marked consideration.' And for what services to the Crown of France was this ministerial epistle indited and royal decoration conferred? The reasons assigned are two in number—first, because 'he had defended, with talent and patriotism, French opinions and French interests in the New World;' and next, because 'the brilliant reception which he had received last summer in Canada has been considered a striking proof of the esteem and popularity which he enjoyed among those old French people.' The *New York Courier*, commenting on this, says—'The fact is itself singular enough to deserve notice. But we refer to it also because this distinction conferred on our cotemporary has reference to a part of the British empire. These old French people are British subjects. And we do not understand why the Government of France considers them still such peculiar objects of regard, or how they reconcile with their allegiance the brilliant reception they gave to the defenders of French opinions and French interests. We commend the circumstances to the peculiar attention of British statesmen?' Now, contrast this conduct of the French Minister with the treatment which my friend and colleague Dr. Rolph has experienced at the hands of the Colonial Minister of the British Crown. That gentleman was, as I have already said, in Canada, as I myself was in Scotland, during the short period when the details connected with the brig 'Barbadoes' were arranged in London. For the casualties brought on the Association in consequence of an operation which was sanctioned by a resolution passed at a meeting on the 8th of June previous, when the Duke of Argyle filled the chair, he and the other executive officers are no more culpable than they are for having raised the hurricane which drove back the vessel to our shores after she had proceeded on her voyage to the banks of Newfoundland, or for writing those leading articles in the journals of the day by which the sin and the shame of the aggregate enormities committed have been heaped on the heads of the parties victimised by them, instead of upon those who are the culprits in the case. Dr. Rolph returned to England in the close of that season, to find in desolation the superstructure which years of joint devotion to this cause had enabled us to erect And, in conjunction with myself, he exhausted progressively every means that lay in our power to rectify the evils which had been suddenly and unexpectedly brought upon us. And what, in his instance, has been the

result? Suspension of public utility, defamation of character, bankruptcy, and a return to the precarious chance of finding bread in the paths of that profession which seven years ago he left, to place himself in the van of those who, during the bloodshed and the sweat of the Canadian outbreak, fought and suffered to preserve the integrity of the empire. Whilst, then, the newspaper editor of a state hostile to Britain crosses the Canadian frontier, and receives from the Government of France the Star of the Legion of Honour, for promoting treason within the bounds of the British nation, what has the man deputed to this country by all in British America that are faithful to British connection, to plead their interests, and who has eight times crossed the Atlantic ocean on missions of the mightiest benefit to our race, ever received for his services from the British Treasury? The sum total of £600. Yes, six hundred pounds for six years of assiduous, unremitting, laborious, and expensive services, rendered contemporaneous with those, such as they are, of Lord Stanley's retainers in Park-street, who have divided, in the same period, about £50,000 sterling. Ay, and this, too, at a time when the North American Colonisation Company for Ireland allows to Mr. Gibbon Wakefield, for the one single job of advocating a line of canal through their estates, no less a sum than £12,500. Shame on the turpitude of meanness such as this! If, then, this nation is rapidly putting on the decrepitude and the senility of old age, while she is yet in her prime, it is because the smiles and the rewards of British royalty seldom shine except upon those—whether in the field, on the ocean, or in the Cabinet—whose daily services are amply compensated by their daily pay. What, let me ask, to use the poignant language of the *Times*, have 'the Irish distillers, the Highland graziers, and the London stockjobbers,' who have been pitched during the last ten years into this noble order, done for their titles, in comparison with the national services of one who has concentrated public attention upon the inexhaustible resources of British America—who raised emigration thither from the dead level of 3,266 souls in 1838, up to the number of 44,374 in 1842—and who has watched and defeated the every machination of a host in this country, who, in violation of the dying behest of our late monarch, *will* have 'Canada lost, or given away?' Could the facts be revealed, it would unquestionably be found that their merits differ in kind from, but are not much more exalted in degree than, those of the Chevalier Theodore Frederick Gaillardet. In the person of Dr. Rolph the whole loyal inhabitants of British America have been insulted, outraged, and disgraced to a man. And unless Lord Stanley shall now come forward and lend a helping hand to redress the wrongs which he may perhaps have unintentionally inflicted, there is not a faithful subject in Canada who ought to regard him in any other light than as the fitting tool in England of those who form 'the baneful-domination-of-the-Mother-country party.' Nor ought there to be one gentleman in the British dominions, here or elsewhere throughout the world, who should not regard him as one better suited for keeping, cap in hand, the door of the Colonial Land and Emigration Board concern, than to fill the place of him in the councils of the Sovereign and the administration of the realm, who, on the mighty theatre of

Britain in the Western Hemisphere, has the power to accomplish for this age and nation higher and more enduring services than Nelson ever performed on the quarter-deck, or Wellington in the field."

The day of grace for Lord Stanley has passed away. He retired from office without making any amends for the losses which his mischievous unofficial conduct occasioned. But it is now open to Earl Grey to repair the damage inflicted, by doing justice to the long and meritorious services of those who have long, well, zealously, and ably directed the public attention to Colonisation, as the only effectual means of averting public distress, pestilence, and famine. It will be in the recollection of all who have taken an interest in emigration, that no sooner had the Wakefield-Pirie plot, for the overthrow of the British-American Association, taken effect, than those worthies projected a *new* settlement in *New* Zealand, to be called *New* Edinburgh, and to be formed chiefly, if not exclusively, of Scottish emigrants. This scheme, however, and all arrangements connected with it, in consequence of the mean and shuffling policy of Lord Stanley, came to an end. But, at a meeting, presided over by the Right Hon. Fox Maule, at Glasgow, a plan was developed for the disposal of the lands of the New Zealand Company at OTAGO, and the foundation of a Scottish Colony there, under the auspices of the association of lay members of the Free Church of Scotland. On this occasion, as stated in the handbill giving notice of the meeting, all persons, interested for themselves or friends, were invited to attend, "the object being to introduce the system of Colonisation indicated by the recent measures of Her Majesty's Government; and whereby, in place of the random emigration that has prevailed, the people are to be accompanied with their valued institutions, and to present in each case a complete section of the Home Society, with its social comforts and economic combinations of capital and labour." Now, this is just precisely treading in the footsteps which the British-American Association intended to have pursued, but pursued in a way even more in accordance with the constituent principles of British population and British institutions than what the Otago Colony aims at. On looking a little below the surface of this apparently well-concocted scheme for the plantation of a Scottish Colony in Australasia—and which I heartily wish God speed—it will be found to differ very little (to quote from the *Times*) from the company "whose be-all and end-all it is to monopolise the marketable land, and to job it out again at an advance of prices." The British-American Association contemplated the establishment of large bodies of landlords, interspersed with tenants, cotters, feuars, labourers, and others. But, of 144,600 acres of land, which is to be the basis or site of the Otago settlement, 120,500 is for sale in small lots to private individuals; and of the remainder 12,050 acres only is to be reserved for the estate to be held by the New Zealand Company. Here, then, a new society is to be constituted who will be all, or mostly all, small freeholders, and which, therefore, never can approximate to the state of the British population (of essential importance in New Zealand) which consists of, and owes its greatness and tenacity to, a diversity of ranks and occupations. Nevertheless, as it appears to Earl Grey to be "a matter of the GREATEST

PUBLIC CONCERN to enable the New Zealand Company to renew its operations," it will affect little the interests of Great Britain, removed as Otago is some 22,000 miles from our doors, what system of settlement or Colonisation is pursued there. Such, however, is not the case in North America, lying as our Colonies there do within eight days' sail of our shores, and environed as they are by a rival, enterprising, active, and aspiring Republican State. From a leading article in the *North British Mail*, on the meeting in reference to New Zealand Colonisation, at which Mr. Fox Maule presided at Glasgow, it appears the meeting "was thinly attended. Even curiosity did not bring a large audience. A real New Zealand chief, a John Heki, exhibited, for twopence a visitor, would have certainly insured a fuller house." Further, it is observed, "Nothing is, however, clearer than that the public feel less interest in these projects than they would have done some time ago. They have found out that emigration does not help them. The formation of new countries but very indirectly aid the old. THE CHAIN THAT CONNECTED THE COLONIES TO THE PARENT LAND HAS NOW SCARCELY A SOUND LINK. The outlay of money in or for any of them is quite as embarrassing as its outlay in or for a foreign land. The importation of barrels of flour from Montreal may as certainly derange the currency as their importation from New York. There is only a nominal connection between the parent and the child, with the payment by the former of the latter's expenses in part." Alas, that such lines should ever be written by a British subject! Fearful, indeed, the national degeneracy and wickedness that could produce it. Far, indeed, from that high national standard of loyalty and patriotism that existed in the nation in 1788. Far different, indeed, from that noble spirit which animated the Sovereign of the British throne, and prompted him to say to Lord Thurlow and the Duke of Leeds at the public levee, "You then, too, my Lord Thurlow, forsake me, and suppose me ill beyond recovery; but whatever you and Mr. Pitt may think or feel, I that am born a gentleman shall never lay my head on my last pillow filled in peace and quiet, as long as I remember the loss of my American Colonies." Alas, Ichabod! the glory is departed. But with such feelings pervading the public mind relative to the Colonies, as the leading article of the *North British Mail* indicates, it is surely the imperative and bounden duty of the Colonial Minister to adopt in the boundless and fertile territory remaining in British America, a new and comprehensive policy in regard to colonising—one that shall prevent the parent and child from being nominally connected—one that shall renew the links of the binding chain, and for ever frustrate the machinations and predictions of those who consider the existing relationships as baneful. And in what more effective manner could Earl Grey promote the consolidation of British power in North America, of making our vast dominions there, and the British isles, one mighty monarchy, than by first calling again into effective agency for the advancement of Colonisation there, those noble hereditary orders in the United Kingdom which were instituted two centuries back, to establish on the one hand that ULSTER, "so great a province of the empire, should more and more flourish not only in the

true practice of religion, and humanity, and probity of manners, but also in the affluence of riches, and the abundance of all things which contribute either to the ornament or the happiness of the commonwealth;" and on the other, that NOVA SCOTIA should, as part and parcel of Scotland, promote "the opulence, prosperity, and peace" of the whole British nation? Secondly, by making the railway system in the Provinces of Nova Scotia, New Brunswick, and Canada, a department of the State, as in the case of France, an engine for systematic colonising, and a source of public revenue to the State? And thirdly, by the creation, for the joint purposes of Emigration, Colonisation, and Colonial railway making, of a new species of GOVERNMENT STOCK to the extent of £20,000,000 sterling, which might be called the Land Funds, in contradistinction to the Money Funds, and which stock shall be represented by £1 Exchequer Debentures, or notes, convertible into land or into the national currency, either at the expiration of five years, ten, or any other longer period that might be deemed best. The adoption of these several measures in British North America, and the erection of the three Colonies into a British VICE-ROYALTY, would be a policy commensurate not only with those exigencies in population which greviously afflict Ireland and the north of Scotland, but with those necessities which exist under FREE TRADE measures, for preserving our possessions upon the St. Lawrence. Mr. Isaac Buchanan, formerly Vice-President of the Board of Trade in Canada, and one of the best living authorities in reference to the action of the Free Trade Act, has boldly set it forth in his recent writings that Lord Elgin will be the LAST GOVERNOR-GENERAL OF CANADA, and such, I believe, is the feeling in all the circles of trade in Glasgow, who are in any way connected with British North America.

Earl Grey has therefore succeeded to power at a moment when vast responsibilities will attach to his Colonial policy in the Western Hemisphere; and when he is called upon by trumpet-tongued events both in the three *home* nations and in the three North American Colonies, to be up and stirring as a statesman, a Christian, and a patriot. In the elaborate hustings' appeal to the electors of Lambeth in behalf of the ex-member, by a writer in the *Sunday Times* (Greville Brooke), he says, speaking of Hawes's *Labuan* doings and laborious exertions to open to the trade of this country the resources of the Indian Archipelago—"A sort of obscurity rests over these matters. They, in especial the growth of Colonies, afford no opportunities for splendid display, so that not even those who profit most by the labour and exertions of a Colonial Minister are fully sensible of the extent of their obligations." But had Mr. Hawes, instead of cobbling up the blunders of the New Zealand Company in one direction—busying himself in another with the affairs of a paltry island, the name of which even is scarcely known to a dozen people in England—and, in a third, been aiding and abetting the surrender of 100,000 acres of land in New Brunswick to the Irish Gibbon Wakefield Colonisation Company, at the very instant the whole press of Canada was denouncing Mr. Godley's plan—not so much from condemnation of the plan itself as from the dread and apprehension, to use the

words of the *British Whig*, that " that arch-vagabond, Edward Gibbon Wakefield, has had a hand in the concoction of the scheme." Had he come down to the House of Commons, during those debates on the state of Ireland, and said—Gentlemen, some fifteen years ago this country, at the call of humanity, GAVE £20,000,000 sterling to redeem slavery in our Colonial dominions ; and I now demand, in the name of charity and wisdom, that £20,000,000 shall be placed at the disposal of the Colonial Department to remove the frightful pauperism, worse infinitely than West Indian slavery in the parent state—would he, to-day, have been the rejected of Lambeth ? In the discussion, in the House of Commons, on Lord George Bentinck's motion on the subject of relief to Ireland, Mr. Hawes is reported to have complacently observed, "That between 1836 and 1847 an emigration of 856,392 persons to the different Colonies had been conducted successfully, and that WITHOUT COMPLAINT, UNDER THE AUSPICES OF THE GOVERNMENT!" *Without complaint !* The speaker must have been dreaming. Does this tally with the miseries, massacres, and bloodshed which have accompanied every footstep of the Wakefield Colonising system in the east, or with the appalling, heart-rending reports of suffering and death which has stricken with terror the inhabitants on the banks of the St. Lawrence, and converted its fertile fields into an Aceldama or field of blood ?

Since the period of the civil wars, without any exaggeration, it may be said, with the exception of the Christian case bestowed by that pattern Under Colonial Secretary Sir R. W. Horton, and the generous exercise of unwonted profuse liberality and generosity exercised by such noble characters as Earl Egremont and Neill Malcolm, Esq.; that emigration *in the aggregate* has been expatriation—the choice to the outcasts and helots of our race between a burning vessel and a raging sea ! Under the abounding destitution in all corners of the realm, instead of our Colonial Secretaries having fulsome hustings' panegyrics sounded in their praise, they ought, one and all, to hide their diminished heads, forasmuch as they have suffered this awful FAMINE VISITATION to pass over without making in Parliament one motion, or submitting one solitary proposition worthy of the exigent circumstances of the case. Well, indeed, may it be said of the Colonial-office, that it requires to " have a MORAL PLOUGHSHARE driven through it!" Yes, it wants to be remodelled *in toto*, and to be made a department for Government worthy of a great people—A MOTHER OF NATIONS, instead of being as it is now a sink of infamy and corruption ; the scorn, hatred, abhorrence, and contempt of every Colony in the empire. The scribe of the *Sunday Times* expatiates upon the hundreds of vessels annually to be employed in distributing the manufactured goods of Great Britain among the forty million natives of the Indian Archipelago, whose domestic industry must be destroyed in order to keep up at a high steam pressure the spinning-jennies of our cotton-lord monopolists ! This slaughter-house system, on a gigantic scale, throws far into the shade of crime that desolation of states of old which the blood-stained Roman spoliators denominated *Peace ! !* But, with the blessing of God, and the awakening sensibilities of the people of England, no pause shall ensue until the Colonial-office

is liberated from that pseudo-liberalism of the vilest sort, which has no fellowship with the Christian charity that begins at home. The canting pharasaicalism upon liberty, civil and religious, which requires the glozing of a radical Sunday newspaper scribbler, is a very different sort of thing from the enlightened and virtuous approbation which would flow from society at large upon the Colonial statesmanship which shall have bowels of compassion for OUR OWN FLESH AND BLOOD: which shall put itself at the head of a crusade of peace in the Western Hemisphere, and concentrate its attention upon making British North America the theatre of a mighty practical operation for the remedy of those evils in population which afflict the United Kingdom. The "Greville Brookes," of the free-trade school, may rest assured that they will preach till Doomsday against "the extremely false notions which appear to prevail respecting the *qualifications* for which the representatives of a great metropolitan borough should be distinguished," so long as—with fourteen million of our fellow subjects beggars; 276,355,880 acres of land in North America to colonise; and money resources at command, such as the application of £324,000,000 to railway purposes between 1830 and 1847, indicate—the Colonial-office is nevertheless the focus of such Colonisation dogmas as those which issue from the Gibbon Wakefields, the Bullers, and the Stephens' of the age. Have we to learn in the year of grace 1847, that the qualifications for the representatives of a great metropolitan borough, and the qualifications for every city, town, and county in the United Kingdom, are such alone as should emanate from, and be compatible with, "THE FEAR OF GOD, THE HONOUR OF THE SOVEREIGN, AND THE LOVE OF THE BRETHREN?" And has Mr. St. John to be told that it is the shutting out and forgetfulness of the Christian principles which these maxims involve, that is making our nation feeble, our public press a nuisance, and our Parliament a nonentity?

But Providence has been speaking home to us of late in a language not to be misunderstood, and bringing to the doors of the Colonial-office, for practical redress, grievances of a sort which will no longer tolerate the semi-infidel evasion they have hitherto received. Whilst glorifying Mr. Hawes's Labuan achievements, and in the same breath expressing his sorrow that the rearing of Colonies afford no opportunities for splendid displays in statesmanship, I tell "Greville Brooke" that the British people are utterly indifferent as to whether the SANS CULOTTE inhabitants of the tropic zone shall ever become a market for the cotton goods of Manchester or not; but that the time has come when the Augean stable of misery and destitution, of filth and crime, of sickness and distress, which every large manufacturing town and city in the kingdom has in its bosom, MUST BE CLEANSED. Instead of looking with the eyes of a Mammonist to the hordes of naked savages in Labuan, who need not our traffic, let the "Greville Brookes," and all who think with them, turn over a new leaf; let them look with the eyes of Christians, and the determination of Reformers, upon such pages of the Report of the Health of Towns Commission as the following:—

"The wynds of Glasgow comprise a fluctuating population of from

15,000 to 30,000 souls; their houses revolting without, and full of filth and destitution within. In some of the lodging-rooms are to be found whole layers of human beings littered along the floor—sometimes fifteen and twenty—some clothed, and some naked—men, women, and children, huddled promiscuously together, their bed a layer of musty straw intermixed with rags. No pains seem to be taken to purge this Augean pandemonium—this nucleus of crime, filth, and pestilence, existing in the second city of the empire. A very extensive inspection of the lowest districts of other places, both here and on the Continent, never presented anything half so bad, either in intensity of pestilence, physical or moral, or in extent proportioned to the population."

During the session that has just closed, the subject of Colonisation has received a more than ordinary share of public attention, but beyond that it has been a *vox et preterea nihil!*

"This is not the first of many public occasions," said Sir R. Broun, in his speech in 1845, "within the last few years, that the necessity for, and the policy of, an extensive Emigration and a methodical Colonisation have been explained and inculcated. The press, the pulpit, and the platform, have all, within the period of my labours in this selected field of usefulness, plied on these themes the most convincing rhetoric. They have, likewise, been the subject of manifold addresses to the Throne—manifold petitions to both Houses of Parliament—manifold appeals to the nation at large. Both cogent, and long, and loud, have been the articles penned, the arguments used, and the speeches spoken, in, or on, this great and wide, but neglected, domain of social enterprise. Is it needful, then, that I should supplement what the wisest heads, the largest hearts, and the loftiest minds in the nation, have exhausted? Systematic Colonisation is A THING TO BE DONE, not to be talked about—an experiment TO BE PRACTISED, not a theory to be promulgated."

Since the period of that address, what awful lessons have railway panic, free trade mania, and potato crop failures, been reading in the land.

"Ten thousand souls WITHIN A SINGLE DISTRICT," according to the *Times* in December last, "are preparing for the alternative of a wide benevolence or frightful famine! Incidents like these, almost too painful for the mind to brood upon, have yet their value. THEY MAKE PEOPLE THINK. They bring reflection to men's minds from whom they have been long estranged. Above all, they cannot but make those men think who are connected with the scenes of suffering by ties of birth and property. This is only one step; but it is an important one. When once men of feeling, as well as men of wealth, begin to ponder on such things, they will not stop before they have done their best in devising a remedy for the pressure, and a preventive against the recurrence of such destitution as has visited Templemore!"

Since this was written—not ten thousand souls have been stricken down by a frightful famine—but, if the *Nation* newspaper is an authority to be trusted and is correct, 2,000,000 persons have perished in Ireland under this awful visitation. Irrespective of all private subscriptions—all Relief Funds, all soup-kitchen expedients, the sums voted by Parliament

to arrest this famine, and towards the amelioration of the distress in Ireland, has been EIGHT MILLIONS STERLING! In the strange infatuation or odious brutality of the Colonial Department, either from want of precaution, or a meditated attempt to bring the only remedy for this great calamity, COLONISATION, into contempt and abhorrence, these mighty philanthropists, who could, ON ANONYMOUS INFORMATION arrest, in 1842, on their way across the Atlantic, as merry and well-provided a body of emigrants as had ever left these shores, forsooth, because it was late in the season—the month of October—to depart; and permit, this season, if they did not encourage, or even enforce, by their callous inhumanity, thousands and thousands of withered and dying Irishmen to perish with fever on the ocean, convert a Colony into a charnel-house, and fill its inhabitants (hitherto the warmest champions of Colonisation) with dread, indignation, and despair. At Gross Isle *alone* the total number of deaths amongst these afflicted emigrants in 75 days was 4,536!! whilst at Quebec, Montreal, Brockville, Kingston, Toronto, Hamilton, and even further westward, the emigration of this year has been one continued march of disease and death! Formerly, from before the administration of Sir Peregrine Maitland down to the close of the late incomparable Lord Metcalfe, every Governor of Canada, at the opening and termination of every session of its Legislature, spoke of emigration as the life's blood of the Colony. The panegyrics on it, the recommendations to encourage it, would alone form a large and interesting volume. Sir John Colborne, Sir Francis Head, Sir George Arthur, Earl Durham, Lord Sydenham, Sir Charles Bagot, and Lord Metcalfe, constantly, strenuously, eloquently, and urgently enforced its encouragement, and extolled its advantages. Alas! for the first time in the history of Canada, chequered as it has been by political strife, convulsed by internal rebellion, and menaced by external sympathisers, it has been reserved for the Earl of Elgin to announce to the Canadian Parliament, "I have not failed to bring the subject under the notice of Her Majesty's Secretary of State, and to REPRESENT THE NECESSITY OF ADOPTING MEASURES TO PREVENT EMIGRATION TO THIS COLONY, EXCEPT UNDER MORE EFFICIENT ARRANGEMENTS."

Here are the fruits of the Gibbon Wakefield-Buller-Stephen policy in our Colonies. Surely, then, a high, solemn, most important, and most imperative duty devolves on Earl Grey, that when he meets the new House of Commons on its first assembling, he shall propound measures of Colonisation so extensive, and invite the earnest co-operation of men so able and so willing as the large Canadian proprietary, that its issue will be a diffusion of a *healthy* British population over our North American Provinces. These should no longer be considered Colonies or foreign lands, but should be assumed, recognised, and incorporated as component and integral parts and portions of the Parent State. Why Bristol and Halifax, Glasgow and Miramichi, Dublin and Quebec, are as near to each other, under steam navigation, as were Leith and London fifty years ago. Let, then, the response of our gracious Sovereign to the recent address from the House of Commons on Colonisation—viz.,

"I HAVE TAKEN INTO CONSIDERATION THE ADDRESS OF MY FAITHFUL COMMONS, AND AM DEEPLY SENSIBLE OF THE ADVANTAGES TO BE DERIVED BY THE ADOPTION OF FURTHER MEASURES FOR THE PROMOTION OF COLONISATION, AND I WILL DIRECT FURTHER INQUIRIES TO BE MADE TO ENABLE PARLIAMENT TO ADOPT A COURSE FREE FROM THOSE EVILS, WHICH PAST LEGISLATION HAD CAUSED BOTH TO EMIGRANTS AND THE COLONIES," be worthily and faithfully carried out—carried out in accordance with those enlarged and patriotic views which James the First contemplated by uniting Scotland and Nova Scotia, and erecting the Scottish Baronetage.

If our Ministers want a Colonising example to follow, and one carried into effect long before the *Wakefield system* was concocted in Newgate, let them look to Ulster. That noble province, the jewel in the Irish Crown, is a standing monument of the plantation wisdom of the first British Monarch of the House of Stuart. In the short space of nine years, says Hume, the historian, James made "more advances towards the reformation of Ireland than had been made in the four hundred and forty years which had elapsed since the Conquest of it was first attempted." Noble work! how much transcending the achievements of war! "To transplant our domestic habits, our commercial enterprise, our laws, our institutions, our language, our literature, and our sense of religious obligation to the more distant regions of the globe, is an enterprise worthy of the character of a great maritime nation." So observes the Lords' Committee on Colonisation, just published. "It is not only in its progress THE PURSUIT AND THE ATTAINMENT OF GLORY, but in its success is THE PERFORMANCE OF A HIGH DUTY, and THE ACCOMPLISHMENT OF A NOBLE DESTINY; and if it can also be made subservient to the relief of pressing distress at home, if the labour which is in excess in certain parts of the country can be rendered the source of an extending and durable prosperity in the Colonies, such a combination of advantages cannot fail the more to recommend this great question of Colonisation to the earlist attention of the Legislature." Yes! upon Earl Grey is thrown the onus of a blessed and munificent duty, to the bold and unflinching discharge of which he is called by the loudest claims of humanity and patriotism, as well as by the glorious and successful example set him by his Christian predecessor in office, the late Sir R. W. Horton. If then he is pledged in the East to advance the views of those who are interested in the Otago settlement—let him also in the West, encourage the object and advance the aims of those who would transfer the destitute population of the United Kingdom to the shores of the Bay of Fundy and the St. Lawrence, carrying with them all the energy of their native character, inspired and animated by hope, instead of being chilled and crushed by despair.

It is not in Glasgow alone that there are "from 15,000 to 30,000 souls" to whom life is now, and has long been, A LIVING DEATH. One-tenth of the population of Scotland—TWO HUNDRED AND FIFTY THOUSAND SOULS—are in a state of pauperism, and that, at a moment, when only

2,500 miles from our door—eight days' sail—we have a vacant territory in New Brunswick of 12,271,031 acres of land, rich in all the elements of social life, calling aloud for inhabitants. There is not one—no, not one—of the worst of those PARIAHS who now infest the purlieus of Edinburgh and Glasgow, Paisley and Dundee, who may not be reclaimed—who may not, in the rising towns and cities along the line of the projected railway from Halifax to Quebec, be changed from a state of penury into a state independence—from want, misery, and vice, into comfort, happiness, and virtue! What a delightful sound it was to me, at the great Paisley meeting I addressed in 1841, when want, misery, disease, and death were making such fearful havoc amongst its suffering population, that a former Paisley body, a poor weaver, now a wealthy farmer in Canada, remembering the scene of his former sufferings and distress, had generously sent over £20, from his new home on the St. Lawrence, to add to the funds raising for the relief of the destitute he had left behind. This, indeed, is the Labuan of a nobler and more glorious cause than the "Greville Brookes" of the Radical press, or the rejected of Lambeth, have ever dreamt of. The conversion of even five hundred wretched non-consumers in the Parent State, into five hundred prosperous consumers in the Colonies, would redound more to the honour and credit of the Under Colonial Secretary than if he could inundate all the islands of the broad Pacific with the fabrics of Manchester! The wares with which the Colonial department have to deal—and very differently, too, from the manner they have dealt with them this year—are the OUTCASTS of a superabundant nation. It is MAN—the master-piece of creation—IMMORTAL MAN, who is better than money, or houses, or goods, or rank, or any work, quality, utensil, or institution, with whom, and for whom, the Colonial Office has to do.

"GO FORTH, REPLENISH THE EARTH, AND SUBDUE IT;" this is the high, the divine mission which the Colonial Minister has to inculcate, and, if it be needful, TO ENFORCE. That mission many successive Colonial chiefs have neglected and despised. That mission many Colonial underlings have to answer for. This ignorance and perversion, God, for a season, has not visited with his high indignation. But now, his judgments are abroad throughout the land, and now, indeed, should be the accepted time.

I am, dear Sir, your obedient servant,

THOMAS ROLPH.

Portsmouth, 20th September, 1847.

P.S.—By the arrival of the "Cambria," additional information has been afforded of the ravages caused by the fever amongst the unfortunate emigrants, permitted to leave Ireland this year, notwithstanding the strong remonstrance I made *in my public letter* to Mr. Crawford, with my name attached to it, long before one of the ships laden so frightfully and fatally from Ireland, with fever, pestilence, famine, and death, had left the shores of Great Britain; and far different from the credence given to an *anonymous correspondent*, on whose statement Lord Stanley acted so hastily, so disgracefully, and so disastrously, in 1842! What a vile herd in Downing-street; and what enormities will they not

have to answer for! The deaths in nine weeks at Montreal, in the city and in the sheds, amounted to 3,240! This is Emigration, indeed, with a vengeance! What a pity that an indictment for murder could not be preferred against some of the parties implicated in this awful state of affairs, who, it would seem, was much more interested about the return of a soap-boiler for Lambeth, or a speculation of Edward Gibbon Wakefield, than the lives of ten thousand of their fellow men.

T. R.

TRANSPORTATION AND OUR CONVICT DISCIPLINE IN VAN DIEMEN'S LAND CONSIDERED, IN A LETTER TO LORD GREY.

My Lord—Having resided in Van Diemen's Land since the year 1843, and having directed my attention to the subject of penal science in general, and particularly to the system of discipline introduced there in the above year, I offer this circumstance as an apology for addressing your Lordship upon a subject on which so much has been said and written, both by public men and private individuals.

The purport of this letter is to detail to your Lordship circumstances and facts connected with penal science, with a view to develop the causes which have mainly contributed to the failure of the late experimental scheme, and to trace the evils which have accompanied its progress to the existing regulations, rather than to the principles of transportation itself. To point out the benefits conferred on a young settlement by the transportation of convicts to it, to show that a similar boon might with equal propriety be extended to all the Australian Colonies in common with Van Diemen's Land, and that transportation ought to be accompanied by regulations tending to encourage emigration.

I am quite aware that it has been attempted to be proved that the importation of convicts into any free community is productive of mischief without any counteracting good; and under the influence of this idea many persons in Van Diemen's Land have been led to copy the error of New South Wales, and petition for the cessation of transportation as the only available means of putting a check upon that overwhelming torrent of unrestrained vices which, if suffered to continue, must ere long entirely silence the feeble voice of virtue. Convinced that it is not to the promulgation of any new principle, involving the subversion of existing institutions, that we must look for infallible correctives to error; but to the proper application of the powers already known, I have been induced to give my attention to the subject of transportation, in order to determine, in my own mind, whether it would be possible to continue it with advantage to the convict without entailing evil consequences upon the free community within its sphere of action. The result of this investigation has been a conviction that

it may be made a mighty engine in the reform of the criminals, attended with benefit to the Colony in which their labour is made available, and to the Mother-country, whose interest is so intimately connected with that of her Colonies.

Among the most prominent benefits conferred upon a new settlement by transportation, are:—1st. The opportunity afforded for a rapid progress in public roads, buildings, bridges, &c., whereby the value of property and produce is increased. 2nd. The equal and plentiful supply of labour. 3rd. The consequent equalisation of the value of labour with the intrinsic worth of the article produced by labour. In other words, labour, under judiciously constructed laws, of course, is rendered equal in quantity to the demand, and can be procured by the farmer, grazier, merchant, &c., at a remunerating price, whereby they are enabled to compete with other countries, and a more extended market is opened to them. In proof of the first benefit asserted, attention need only be called to the progress made in the construction of roads, buildings, &c., in Van Diemen's Land, which has exceeded in a few years what, with free labour alone at command, would have required as many generations to accomplish, and much more might have been done by a judicious application of labour under proper arrangement of convict laws.

Another circumstance which may be classed among the advantages of transportation is, that it affords an opportunity of placing the convict in a position to acquire habits which will enable him to obtain a living by honest industry, the road to which, if left to his own inclination, he would in all probability never even desire to know. It opens to him a broad, a greater field of activity than he ever could expect to find at home, where every species of employment has its applicants in abundance, possessing both experience and character to recommend them. The convict, then, who, after the completion of his sentence at home, finds himself in a position rendering it extremely difficult to obtain employment, when exiled under wholesome regulations, finds this state of things reversed, and succeeds to his emancipation with his testimonials to refer to, and a degree of experience in the Colony which renders him even more useful to the settler than the newly-arrived emigrant.

One objection raised against transportation is embodied in the statement, that labour performed by free men on wages is cheaper than the same amount of labour performed by men under bondage without wages; and so long as the labour market is depreciated below par, by a superabundance of labourers under bondage, I am willing to assent to the truth of the objection; but regulate the number of labourers to the demand for labour, and the hypothesis will be a false one, and if the depreciating cause be entirely removed by the total cessation of transportation, free labour will not only become infinitely dearer than convict labour, but almost beyond the reach of the individual, and quite inadequate to the wants and available resources of the public.

I will instance as an example the following statement:—

The average number of passholders, male and female, in service in Van Diemen's Land is 9,294; the maximum wages being £9 a-year.

The average number of males and females in service holding a ticket of leave is 7,370; the wages £12 a-year. The amount of wages paid to these two classes annually is £172,086. At Port Phillip the amount of wages paid to each servant yearly is £24, and the same number of servants at this rate would amount to £399,936; the saving to Van Diemen's Land being £227,850 a-year; and if you take into consideration the fact that Port Phillip receives the greater number of its labourers and servants from Van Diemen's Land, which source would not be available to either if transportation ceased, it will appear a self-evident consequence that wages would rise, as before, to £45 a-year, and then the increased amount to be provided by Van Diemen's Land would be £577,794. This would be more than equally destructive to Van Diemen's Land, because the wool-growers of Port Phillip, on account of the superiority of their grazing land, can already compete with those of Van Diemen's Land, with wages in the former place at £24 a-year, and in the latter at £9 and £12. It is pretty evident then that the Van Diemen's Land wool-grower would be entirely excluded from the market, with wages at £45 a-year.

A most serious objection to transportation as it now exists, and one worthy of the utmost consideration, is the diffusion of pernicious examples through society, and the consequent demoralisation which pervades all classes. And if this is really a necessary consequence, if the island must be deluged, as of late, with treble the number of convicts it can find employment for, and these be licensed to spread the seeds of their vicious habits amid the free population, or transportation cease, then let it cease; but this is not a necessary consequence any more than it is the ultimate object of the law. The convicts of the dockyards at Woolwich or Portsmouth are not suffered to become an intolerable nuisance to the inhabitants of those towns, neither ought those in Van Diemen's Land, or any other settlement, to be endowed with a degree of freedom which constitutes them a terror to the neighbourhood, because their supposed rights of liberty would be interfered with by a restraint necessary to protect the property and lives of the free settlers, and secure to them the labour of those they are expected to clothe, feed, and pay.

Under what is called the "old assignment system," the Colonist was contented to endure the trouble and anxiety which must always attend upon the employment of convict servants, in consideration of the value he received in the labour returned, knowing, as he did, that the same amount of labour could never be obtained in a young Colony from free men, and that wages must always be proportionately high, because the moment labour became plentiful wages would fall, emigration of labourers would cease, and many would return again to their native land or leave for other parts. Men will not expatriate themselves and endure the toil and privation of a new settlement without a hope of ultimately raising their condition. This, if properly considered, will at once establish the fact that no other kind of labour is available to the Australian Colonies but convict labour. The rapid rise of Sydney and New South Wales in general, may be traced to this cause; and the

fact of her having again turned her attention to the resumption of transportation, is a proof that the intelligent part of that community are fully aware of the importance of the subject, and only require a guarantee that they will not be made partakers in the evils endured by Van Diemen's Land to induce them to come forward as its most strenuous advocates.

It is quite true that the former system of assignment was attended with some abuses; but it is also true that out of the limited number subjected to its laws, more have been made, and are now useful members of society, than have become so out of the thousands that have enjoyed the freedom of probation. Before the arrival of Colonel, afterwards Sir George Arthur, it was not safe for a respectably dressed person to be seen in the streets of Hobart Town after dusk, and many were robbed of their clothes and otherwise ill-treated by the convicts in the middle of the day; but through the energetic measures of his government these outrages were put a stop to at once, and then, to make use of a local phrase, "you might lay your watch down in the centre of the street at night and find it the next morning." No one ever thought of either locking his doors or fastening his windows at night; and what is there now to render the existence of a like security impossible? The subsequent oppression asserted to have been used towards the convicts, though it doubtless existed in individual cases, was greatly exaggerated and admitted of easy remedy, without the necessity of falling into an extreme of indulgence.

With all its failings, however, it cannot be denied that the system of discipline introduced upon trial in 1843, is one which has proceeded from men of ability, endowed with every honourable feeling of humanity; and had the prosperity of the young Colony destined to be the sphere of its action, and the consequent increasing demand for labour progressed as much during the term of its operation, as its previous history perhaps warranted the supposition that it would have done, a very little exercise of local discretion, and the alteration of a few material points, would have insured a different result from that of which all but too justly complain. But while the details of the plan laid down, in the dispatches upon the subject, have been carried out to the letter, little or no attention has been paid to the working of the system, and the exercise of that power with which the local authorities were invested, and which they were directed to use with the utmost consideration and caution. In fact, the principles of the system having been explicitly stated, the direction of so many minor points was of necessity left to the observation and experience of those whose duty it was to watch its progress, that it seems wonderful how so great and important a part could have been performed so carelessly in the face of a self-convicting evidence, that any such neglect must of necessity insure the total failure of the experiment.

The Comptroller General, Captain Foster, to whose superintendence the system was committed, greatly underrated the value of discipline, insomuch that during his life the convicts were not even required to observe the ordinary salutations of respect to their superiors, and every

wholesome custom of regularity and subordination was alike disregarded, until the temporary appointment of Mr. Champ, when that gentleman, who is a strict disciplinarian, was compelled to republish an order requiring all convicts to take off their caps or hats to the officers of the Government, to recall them to a sense of their true position.

Lord Stanley divided the principles of the system into six parts:—"1. Subjecting the convict to a preliminary seclusion, with a view not only to example, but to his acquiring the knowledge and habits which may qualify him for the discharge of the duties of his penal state. 2. Transition through various stages of punishment of continually decreasing severity. 3. Dependance of the transition, in each case, on the meritorious or inoffensive behaviour of the convict. 4. Further reward of all such good behaviour by such relaxation of the convict's penal discipline, as may be compatible with his continuance in it, and by the more ready admission at last of his claims to pardon, the rule being precisely reversed in cases of misconduct. 5. Guidance of every adjudication on a convict's claims, whether to indulgence or pardon, by a contemporary record, punctually to be kept, of his course and habits of life, reduced to a numerical account; or, in other words, by carrying marks to his debit or credit. 6. The subjecting every convict, from the commencement to the close of his probationary career, to a systematic course of religious, moral, and industrial education."

These are the outlines of a system, excellent in itself; but the theoretical and practical part of a science often present two very opposite results, and to all those acquainted with the local circumstances of the system under consideration, it will appear easy to exclude the possibility of absolute success, without detracting from the merit of the original design. A further illustration of this fact will be better arrived at, by following the course laid down in the subsequent dispatches, and furnishing a short reply to those questions which refer to the working of the system. These are also divided into six heads.

"1. Condition of the convicts. 2. Working of the system. 3. Results of experience in detecting errors. 4. Best means of correcting them. 5. State efficiency and expense of each department. 6. Most effectual method of promoting economy and efficiency in this branch of the service."

From the nature of the foregoing questions it will at once be seen that, had a true and comprehensive reply been given to each of them, the evils which have resulted could, and I have no doubt would, have been prevented, either by the alteration of the obnoxious regulations, or abandonment of a system under which the Colony has suffered so much inconvenience and injustice. Under the first head, or "Condition of the convicts," a reply was furnished to coincide with the well-known wishes of the authors of the system, instead of representing them as they were, a daily increasing mass of individuals, kept in idleness and negligence, corrupting each other and society at large. The law entitling them to receive wages and want of funds on the part of the Colonial Government tended to increase this state of inactivity. Gangs of men from 30 to 50, and even 100 in number, were seen

in various parts of the country, some resting on their shovels, some riding in the hand carts, some lying on the ground smoking their pipes, while a few would take their turn to assist in doing in a week, what a moderately active English labourer, working for his bread, would do in one-fourth of the time; and so destructive was this state of tuition to all habits of industry, that these men from having acquired what was emphatically termed "the Government stroke," as descriptive of the slovenly and tediously measured way in which they learned to work, were totally unfit to earn a living by their labour. Nor could any other result be looked for, when it is remembered that a very large proportion of the number exiled by the laws of their country have been trained thieves from their infancy, and never knew any other mode of life, and that even those who have fallen from the more respectable class of labourers and servants, have found their education at home but an imperfect key to the duties required of them in a new settlement.

The women, on their arrival in the Colony, are required to undergo the first stage of their probation on board the "Anson," where some extent of order and discipline is kept up, and an attempt is made to teach them something useful. But here the sphere of action is too contracted to form the basis of a system. The work taught consists of needlework, straw plaiting, &c.; and out of 500 or 600 women perhaps not 20 are ever hired for any of these purposes, and their six months' probation only teaches them a more easy, though fictitious, road to independence, and increases their preconceived disgust for service and servitude. A practice, too, prevails in the mode of punishing women who misconduct themselves in the "Anson," productive of a serious evil. These are sent to the Female House of Correction, or "Cascade Factory," and having finished their second sentence there, are received back again to finish their six months' probation on board the "Anson," and thus, after contact with the most abandoned of their sex, from whom they receive intelligence of everything and every place in the island that is bad, they are permitted to carry the result of their experience directly into the Female Reformatory, as it has been called, by which means the minds of its inmates are familiarised with the names of persons and places they ought never to hear of, and prejudiced against their future masters and mistresses. When their time of assignment arrives, they are all anxious to escape the confinement and restraint of the ship prison. They are well versed in the history of the Cascades, or House of Correction, and of the brick-fields or place of resort for those who are assignable after they have left the "Anson," and have quitted their first or any subsequent place of servitude. The former, by description, has lost all its terrors; the latter is known also by description, as a desirable place of residence, where a life of idle indulgence may be passed. The women, therefore, who are ready for service in the "Anson," are, in nine cases out of ten, totally unqualified for the duties of any situation; but, for the sake of the desired emancipation, they represent themselves to the applicants as competent to undertake any and every one proposed. These deceptions are of so frequent occurrence that none ever think of availing themselves of the law in-

tended to check them, well knowing that the servant is quite prepared to undergo a short sentence to the Cascades for falsely representing her capabilities, should such sentence form a necessary preliminary to her introduction into the brick-fields. In most instances, then, a slight effort is made to induce her to learn the duties she has engaged to perform, which proving futile, if tolerably inoffensive, a notice of ten days is given; after the expiration of which, the woman is returned to the Government. And so universally and repeatedly has this been of necessity resorted to, that, on account of the great inconvenience arising from the length of notice required, the Comptroller General has reduced the time of the notice to five days, upon the principle, I suppose, of giving way to the pressure from without, instead of correcting the evil which occasions it. The patience of the convict, however, is frequently of shorter duration than that of the hirer, and she either absconds, or, having obtained leave of absence for an hour, is taken into custody at ten or twelve o'clock at night for being intoxicated in the streets, or it may be, that neither of these results stepping to the relief of the employer, he or she is driven at last to submit to the additional expense and inconvenience of breaking the contract without notice, and returning the woman upon the hands of Government.

With regard to the moral and religious condition of the convicts, it is what might be expected in a congregation of individuals of both sexes, collected together, kept in idleness, and under only nominal restraint. The nature of the instruction imparted to those convicts in the interior is, of necessity, of an inferior kind, both as to quantity and quality. Ministers of all denominations are admitted upon rather an irregular principle, and in many instances their time is more occupied in sectarian disputes than in imparting instruction to the convicts, who are collected in gangs of from 250 to 500 at various stations throughout the country, and being under no positive restraint, not only corrupt themselves, but those with whom they come in contact, whether bond or free, by whom they are aided in their unlawful pursuits, so that the state of morality in the place to which they are sent for reform is often worse than the lowest dens of vice from which they were taken previous to exile. The law, as administered, having failed to establish any kind of order or discipline, and, as a matter of course, to check the vicious in the indulgence of their evil passions and inclinations, the moral state of the convict population is precisely what it has again and again been represented to be, and the whole island, as far as they are connected with it, is one house of ill-fame, where vice, in all its forms, is courted and caressed, and virtue is a crime. These evils increase with every additional indulgence granted to the convicts, because the opportunity of gratifying evil passions and habits, which has existed from the first, has kept alive the desire, and every accession of liberty is a license to continue the pursuit of them with greater security. Every woman-servant hired into a family has one or more followers from the neighbouring stations, who are constantly hanging about the premises, with whom she is generally to be found whenever she obtains leave of absence, and men of the first and second class, sometimes undergoing a

second sentence, have been known to devise schemes of robbery which have been executed through the instrument of these women.

2. *Working of the System.*—The convicts, to a certain extent, may be said to pass through the several gradations marked out in the dispatches upon the subject; and in cases of flagrant misconduct, coming under the cognizance of the law, the ordinary course to indulgence is, of necessity, prolonged; but if the advantages of these indulgences are compared with those already enjoyed by the passholder, it will be found that they offer very little inducement for good behaviour, and in many cases convicts have been known to avoid the possession of a ticket of leave, preferring to remain upon the hands of the Government until eligible to receive a free pardon. And those who do rise from first to second and third class, and to the subsequent possession of a ticket of leave, or conditional pardon, may be said to do so rather by process of time and the natural course of events, than from any merit of their own or assistance they have received from any previous course of discipline. In fact, the amount of freedom enjoyed by the passholder of the second or third class varies in little or nothing from that conceded to those who possess a ticket of leave, if you except the privilege attached to the former of being kept and lodged while out of place, the loss of which privilege obliges the latter, if he or she cannot obtain employment, as is too often the case, to *live* by acts of roguery or *starve* by honesty. And although I do not mean to assert that an individual of known good character would fail of obtaining employment in Van Diemen's Land, still, as the law, though well intentioned, has fallen short of establishing the right to indulgence upon a principle of merit, the value of character is proportionately diminished, the stimulus to good conduct is taken away, and the road which leads them back to their former course of life becomes more inviting on account of the extent to which it can be followed with impunity. It is a rare thing in Van Diemen's Land to find that character forms any part of the subject of inquiry in the hiring of servants. For my own part, and I am certain that I am not singular in this opinion, if two men were placed before me, assignable, the one of moderately good character; that is, who had been at one time in private service, at another under the Government, and had never undergone any particular punishment, beyond a few days solitary confinement, until he had obtained his third class pass; the other, a man who had been several years in the Colony, had just returned from a three months sentence to the roads, and still remained in the second class, I should reason as follows:—My house is a quiet retired place, governed upon principles of regularity. Convicts do not like restraint, are not subject to it under the Government, and are therefore less likely to submit to it in service. If I hire the first of these two men I shall have no command over him, because he has nothing to fear from refusing to be subject to my authority, beyond a few days solitary confinement, after which he again becomes assignable: if he pilfers from me to provide himself with money to spend with his companions, I must be prepared to succumb to his demand for leave of absence, or he will neglect my business and

conduct himself so as to oblige me to return him to the Government. Or it may be he will rob me and abscond, delivering himself up to a magistrate after a few days, and ascribing as a reason for leaving his place, the hardships and ill-treatment he experienced at my hands. In consequence of his giving himself up, the sentence for absconding would be either nothing, or a few days solitary confinement, when his old privilege of assignment would return, unless, which is not likely, I could substantiate a charge of robbery. I should now turn my thoughts to the second of these two men. I should feel that I had a certain degree of influence over him, he had just returned from completing a second sentence in a crime class, where the indulgences, although too many, are fewer than in private service, or under the Government, when eligible for assignment. I could not tell the nature of the offence for which he had received his sentence; I should have little doubt that he was the greater villain of the two. But I should know that he would be anxious to avoid again placing himself in the power of the law, immediately after the completion of a course of punishment, as his next sentence would be so much more extended, and might even have to be gone through at Port Arthur. Now convicts, though they do not mind a few months on the roads, are decidedly averse to Port Arthur. And this would afford me a prospect of being able to exercise some authority over him, and as he would receive kind treatment in my service, if he would accept of it, I should not despair of being able to keep him till he had obtained a third class pass, which they all rather desire, as it not only entitles them to receive the whole of their wages; but by an extended liberality on the part of the officers of the Government, those eligible for service are often permitted to roam about in search of employ. That the right of money, however, as wages, does not form a sufficient stimulus to good conduct is abundantly proved by the fact that both men and women frequently absent themselves from their places for two or three days, and then return, offering to forfeit the wages due to them, and pay in addition a sum equal to ten days wages, in lieu of notice, as required by the regulations when a passholder is returned, without fault, before the expiration of the contract, and by this means many escape the slight punishment they would otherwise have to undergo.

Women who have obtained a ticket of leave, are compelled to take their children out of the Orphan School, and having no certain means of supporting themselves, either from choice or necessity, return to their former course of life. The example of the parent is not lost upon the child, and the streets of Hobart-town present the shocking spectacle of girls, at the age of fourteen years, parading up and down at ten and twelve o'clock, earning their nightly bread. The peculiar hardship of the present system of indulgence is that, while it affords an opportunity for the evil disposed to pursue their former practices, it gives neither protection nor encouragement to those who are desirous of reforming themselves.

3. *Results of experience in detecting Errors.*—Many of those circumstances which seem to belong more properly to this division,

have, of necessity, been already referred to, such as the immense numbers collected together in idleness and the consequent immorality; the promiscuous admixture of the young and timid offender, with the old and hardened criminal, as well as the injurious practice of sending those women who have misconducted themselves in the "Anson," to the Cascade Factory for punishment, and allowing them to carry the results of their experience there, back to the ship. The youth and the girl of fourteen years, whom the laws of their country, with humane intention, have exiled, hoping to stop their early career of vice, and wean them from their pernicious habits and associates, are mingled under one common sentence, with those whose lives have been spent in the pursuit of villany, and thus plunged into a vortex of iniquity ten thousand times more overwhelming and irresistible than that in which their infant minds were first taught to go astray.

I have been assured of the truth of this statement from the women themselves, who have told me that before they were transported they never knew that half as much wickedness existed in the world as they have seen and heard of on board the "Anson." I have been told the same thing by men and boys. I have seen two companies at work at the same time, excavating behind the Custom-house in Hobart-town, (during the time I held the situation of Superintendent of Public Works there in 1844). The one has consisted of newly imported men and boys, and I have been astonished at the good will and activity displayed by them in the performance of their work. Every man was employed, the hand-carts were filled and wheeled away with expedition, and an air of contentment was visible in the faces of the workmen, which convinced me that an opportunity then existed for improving their moral and social condition. But what a contrast presented itself in the contemplation of the other of the two companies, the very countenances, young and old, proclaimed that, during their residence in the island, they had descended many degrees in the scale of criminality. There was not a smile on the face of any one of them; there they stood, and out of fifty or sixty men not five were working at their spades and pickaxes, while out of five or six carts not one was filled for the space of twenty minutes. The overseer, who seemed lost in astonishment at the display of activity before him, stood with his face towards the newly arrived men, and his back to the others, many of whom had taken advantage of this his position, and were reclining behind some stacks of iron pipes, smoking, others were resting on their instruments of labour, or sitting on the carts, and all, with few exceptions, were passing jeering remarks, laughing at and deriding their better conducted companions, for their assiduity and industry, calling to them to stop their carts and take up "two or three of these little stones," alluding to several of about a ton weight each, which were being uncovered in the process of excavation. Of course, under such a state of corrupt discipline, all probability of a reform being worked in the mind of any one of these men was not only entirely destroyed, but a gradual degradation in the nature of their feelings and condition became a necessary consequence. Both these companies of men enjoyed the

same privileges, the one with, the other without, any effort of their own; and it is not to be supposed that the one will endure the gibes of the other, and the labour too, without deriving any corresponding advantage. If the overseers are spoken to on the subject, their reply is, "By the new regulations we are not allowed to find fault with the men," and it has been observed in many instances, that overseers, who have exerted themselves in the maintenance of discipline, and succeeded best in keeping the men under their charge steadily at work, have been reproved and reminded that "the object of the Government" was "not to obtain the greatest amount of labour, but to instruct and reform the men." Thus, while the convicts have been all but abandoned to their own free will, the Government at home has been deceived by false coloured representations, into the belief that perfect success was attending the working of the system. Every attempt on the part of the members of the Colonial Legislature to open the eyes of the Imperial Parliament to the real condition of the convicts, and the working of the system, was met by a determined opposition from its supporters, and the facts adduced by the former, flatly contradicted by the latter, in the face of evidence as clear as the light of the day in which the attested transactions took place. By this means the sagacity of the Colonial Legislature suffered itself to be overcome by the superior tact of the Executive, and instead of persevering in the prosecution of the original design, these gentlemen were imperceptibly entangled in the meshes of party feuds and factious disputes, and finally were frightened from the field, and resigned at a moment when they might have commanded the victory and deserved the credit of it.

(To be continued.)

GUTTA PERCHA.

BY THOMAS OXLEY, ESQ., A.B.,

SENIOR SURGEON OF THE SETTLEMENT OF PRINCE OF WALES' ISLAND, SINGAPORE, AND MALACCA.

ALTHOUGH the trees yielding this substance abound in our indigenous forests, it is only four years since it was discovered by Europeans. The first notice taken of it appears to have been by Dr. W. Montgomerie, in a letter to the Bengal Medical Board, in the beginning of 1843, wherein he commends the substance as likely to prove useful for some surgical purposes, and supposes it to belong to the fig tribe. In April, 1843, the substance was taken to Europe by Dr. d'Almeida, who presented it to the Royal Society of Arts of London, but it did not at first attract much attention, as the society simply acknowledged the receipt of the gift; whereas, shortly after, they thought proper to award a gold

medal to Dr. W. Montgomerie for a similar service. Now, as the discovery of both these gentlemen rested pretty much upon the same foundation—the accidental falling in with it in the hands of some Malays, who had found out its greatest peculiarity, and, availing themselves thereof, manufactured it into whips, which were brought into town for sale—there does not appear any plausible reason for the passing over the first and rewarding the second. Both gentlemen are highly to be commended for endeavouring to introduce to public notice a substance which has proved so useful and interesting. The gutta percha having of late attracted much attention, and as yet but little being known or published about it, I would now propose to supply, to the best of my ability, this desideratum, and give a description of the tree, its product and uses, so far as it has been made available for domestic and other purposes, in the place of its origin.

The gutta percha tree, or gutta tûban as it ought more properly to be called—the percha producing a spurious article—belongs to the natural family *Sapoteæ*, but differs so much from all described genera, having alliance with both Acras and Bassia, but differing in some essentials from both, that I am disposed to think it is entitled to rank as a new genus. I shall, therefore, endeavour to give its general character, leaving the honour of naming it to some more competent botanist, especially as I have not quite satisfied myself regarding the stamens from want of specimens for observations.

The tree is of large size, from 60 to 70 feet in height, and from two to three feet in diameter. Its general appearance resembles the genus Durio, or well known Doorian, so much so as to strike the most superficial observer. The under surface of the leaf, however, is of a more reddish and decided brown than in the Durio, and the shape is somewhat different.

The flowers are axillary, from one to three in the axils, supported on short curved pedicles, and numerous along the extremities of the branches.

Calyx, inferior, persistent, coriaceous, of a brown colour, divided into six sepals which are arranged in double series.

Corolla, monopetalous hypogenous, divided like the calyx into six acuminate segments.

Stamens, inserted into the throat of the corolla, in a single series, variable in number, but, to the best of my observation, the normal number is twelve, most generally all fertile, anthers supported on slender bent filaments, opening by two lateral pores.

Ovary, superior, terminated by a long simple style, six celled, each cell containing one seed.

Leaves about four inches in length, perfect, entire, of a coriaceous consistence, alternate, obovate lanceolate, upper surface of a pale green, under surface covered with close, short, reddish brown hairs. Midrib projects a little, forming a small process or beak.

Every exertion of myself and others having failed in procuring a specimen of the fruit of the gutta, I regret being compelled to omit the description of it in the present instance, but hope to rectify this omis-

sion in some future number of the journal. It is quite extraordinary how difficult it is to obtain specimens of either the flower or fruit of this tree, and this is probably the reason of its not having been earlier recognised and described by some of the many botanists who have visited these parts.

Only a short time ago the tuban tree was tolerably abundant on the island of Singapore, but already all the large timber has been felled, and few, if any, other than small plants are now to be found. The range of its growth, however, appears to be considerable; it being found all up the Malayan Peninsula as far as Penang, where I have ascertained it to be abundant, although as yet the inhabitants do not seem to be aware of the fact, several of the mercantile houses there having sent down orders to Singapore for supplies of the article, when they have the means of supply close at hand. The tree is also found in Borneo, and I have little doubt is to be found in most of the islands adjacent.

The localities it particularly likes are the alluvial traces along the foot of hills, where it flourishes luxuriantly, forming, in many spots, the principal portion of the jungle. But notwithstanding the indigenous character of the tree, its apparent abundance, wide spread diffusion, the gutta will soon become a very scarce article, if some more provident means be not adopted in its collection than that at present in use by the Malays and Chinese.

The mode in which the natives obtain the gutta is by cutting down the trees of full growth and ringing the bark at distances of about 12 to 18 inches apart, and placing a cocoa-nut shell, spathe of a palm, or such like receptacle, under the fallen trunk to receive the milky sap that immediately exudes upon every fresh incision. This sap is collected in bamboos, taken to their houses, and boiled in order to drive off the watery particles and inspissate it to the consistence it finally assumes. Although the process of boiling appears necessary when the gutta is collected in large quantity, if a tree be freshly wounded, a small quantity, allowed to exude, and it be collected and moulded in the hand, it will consolidate perfectly in a few minutes, and have all the appearance of the prepared article.

When it is quite pure the colour is of a grayish white, but as brought to market it is more ordinarily found of a reddish hue, arising from chips of bark that fall into the sap in the act of making the incisions, and which yield their colour to it. Besides these accidental chips there is a great deal of intentional adulteration by sawdust and other materials. Some specimens I have lately seen brought to market could not have contained much less than one-fourth of impurities; and even in the purest specimens I could obtain for surgical purposes, one pound of the substance yielded, on being cleaned, one ounce of impurities. Fortunately it is neither difficult to detect or clean the gutta of foreign matter; it being only necessary to boil it in water, until well softened, roll out the substance into thin sheets, and pick out all impurities, which is easily done, as the gutta does not adhere to anything, and all foreign matter is merely entangled in its fibres, not incorporated in its substance. The quantity of solid gutta obtained from each tree varies

from five to twenty catties, so that, taking the average at ten catties, which is a tolerably liberal one, it will require the destruction of ten trees to produce one picul. Now the quantity exported from Singapore to Great Britain and the continent from 1st January 1845, to the present date, amounts to 6,918 piculs, to obtain which sixty-nine thousand one hundred and eighty trees must have been sacrificed. How much better would it therefore be to adopt the method of tapping the tree practised by the Burmese in obtaining the caoutchouc from the ficus elastica (viz., to make oblique incisions in the bark, placing bamboos to receive the sap which runs out freely), than to kill the goose in the manner they are at present doing. True, they would not at first get so much from a single tree, but the ultimate gain would be incalculable, particularly as the tree appears to be one of slow growth, by no means so rapid as the ficus elastica. I should not be surprised if the demand increases, and the present method of extermination be persisted in, to find a sudden cessation of the supply.

PROPERTIES OF THE GUTTA.

This substance when fresh and pure is, as already mentioned, of a dirty white colour and of a greasy feel, with a peculiar leathery smell. It is not affected by boiling alcohol, but dissolves readily in boiling spirits of turpentine, also in naptha and coal tar. A good cement for luting bottles and other purposes is formed by boiling together equal parts of gutta, coal tar, and resin. I am indebted for this hint to Mr. Little, surgeon, and the above were his proportions. I have, however, found it necessary to put two parts of the gutta; that is, one-half instead of one-third, to enable the cement to stand the heat of this climate. When required for use it can always be made plastic by putting the pot containing it over the fire for a few minutes. The gutta itself is highly inflammable, a strip cut off takes light, and burns with a bright flame, emitting sparks, and dropping a black residuum in the manner of sealing wax, which in its combustion it very much resembles. But the great peculiarity of this substance, and that which makes it so eminently useful for many purposes, is the effect of boiling water upon it. When immersed for a few minutes in water above 150 degrees of Fahr. it becomes soft and plastic, so as to be capable of being moulded to any required shape or form, which it retains upon cooling. If a strip of it be cut off and plunged into boiling water, it contracts in size both in length and breadth. This is a very anomalous and remarkable phenomenon, apparently opposed to all the laws of heat.

It is this plasticity when plunged into boiling water that has allowed of its being applied to so many useful purposes, and which first induced some Malays to fabricate it into whips, which were brought into town and led to its farther notice. The natives have subsequently extended their manufactures to buckets, basins, and jugs, shoes, traces, vessels for cooling wine, and several other domestic uses; but the number of patents lately taken out for the manufacture of the article in England proves how much attention it has already attracted, and how extensively useful it is likely to become. Of all the purposes, however,

to which it may be adapted, none is so valuable as its applicability to the practice of surgery. Here it becomes one of the most useful auxiliaries to that branch of the healing art, which of all is the least conjectural. Its easy plasticity and power of retaining any shape given to it when cool, at once pointed it out as suitable for the manufacture of bougies, and accordingly my predecessor, Dr. W. Montgomerie, availed himself of this, made several of the above instruments, and recommended the use of it to the Bengal Medical Board. But, like many other good hints, for want of sufficient inquiry, I fear it was disregarded. The practice, however, has been continued by me, and I find many advantages in the use of this substance. It also answers very well for the tubes of syringes, which are always getting out of order in this country when made of caoutchouc. But my late experiments have given it a much higher value, and proved it the best and easiest application ever yet discovered in the management of fractures, combining ease and comfort to the patient, and very much lessening the trouble of the surgeon. When I think of the farago of bandages and splints got rid of, the lightness and simplicity of the application, the gutta would be no trifling boon to mankind were it to be used solely for this and no other purpose. The injuries coming under my observation wherein I have tested its utility, have as yet only been two compound fractures of the leg and one of the jaw. But so admirably has it not only answered, but exceeded, my expectations, that I should think myself culpable in not giving the facts early publicity. Its utility in fracture of the lower jaw must at once strike every surgeon. So well does it mould itself to every sinuosity, that it is more like giving the patient a new bone than a mere support. A man lately brought into hospital, who had his lower jaw broken by the kick of a horse, and which was so severe as to cause hemorrhage from the ears, smashing the bone into several fragments, was able to eat and speak in three days after the accident, and felt so well with his gutta splint that he insisted upon leaving the hospital within ten days. My mode of applying this substance to fractures of the leg is as follows :—

The gutta having been previously rolled out into sheets of convenient size, and about one-fourth of an inch in thickness, is thus kept ready for use. When required, a piece of the necessary length and breadth is plunged into a tub of boiling water. The limb of the patient is then gently raised by assistants, making extension in the usual manner. The surgeon, having ascertained that the broken bone is in its place, takes the sheet of gutta out of the hot water, and allows it to cool for a couple of minutes. It is still soft and pliable as wash leather. Place it whilst in this state under the limb and gently lower the latter down on it. The gutta is then to be brought round and moulded carefully to the whole of the back and sides of the leg, bringing the edges close together, but not uniting them. If there be any superfluous substance it can be cut off with a scissors, leaving an open slit down the front of the leg. You have now the leg in a comfortable, soft, and smooth case, which, in ten minutes, will be stiff enough to retain any shape the surgeon may have given it, and which will also retain the

bone *in situ*. Place the leg so done up on a double inclined plane, and secure it thereto by passing three of the common loop bandages around the whole—that is, one at the top, one in the middle, and one at the lower end. Let the foot be supported by a footboard, and a case of gutta put over the dorsum of the foot, to bear off the pressure of the small bandage generally used to secure it to the board. Having done this, the surgeon need not cause his patient another twinge of pain until he thinks he can use the leg, or he deems the bone sufficiently united to bear the weight of his patient. If it be a compound fracture it will only be necessary to untie the loop bandages, separate the edges of the gutta splint to the required distance, wash and cleanse the limb without shifting anything except the dressings, and having done so, shut it up again. The most perfect cleanliness can be maintained, as the gutta is not affected by any amount of ablution; neither is it soiled or rendered offensive by any discharge, all which washes off as easily from the gutta case as from oilcloth. I have had a patient where the tibia protruded through the integuments fully two inches, walking about in six weeks from the injury, with a leg as straight and well formed as ever it had been. It is quite obvious, therefore, that if it answers so well for compound, it will answer equally, if not better, for simple fractures; and that any broken bone capable of receiving mechanical support can be supported by the gutta better than by any other contrivance, for it combines lightness and smoothness, durability and a capability of adjustment, not possessed by any other known substance. All new experiments have to run the gauntlet of opposition, and I do not suppose that these recommendations will prove an exception to the rule. But all I ask of any surgeon is to try the experiment ere he argues on its propriety, and I feel fully convinced that all other splints and bandages will be consigned to the tomb of the Capulets. There are some other uses for which I have tried this substance, viz., as capsules for the transmission of the vaccine virus, which ought to keep well when thus protected, for it is most perfectly and hermetically sealed. But I have not had sufficient experience in this mode of using it to pronounce decidedly on its merits. I am at present trying the effects of it on ulcers by enclosing the ulcerated limb in a case of gutta so as to exclude all atmospheric air, and, so far, the experiment promises success.

Since writing the foregoing observations I have had an official intimation from Penang of the vaccine virus transmitted in the gutta capsules having been received in good order, and of its having succeeded most satisfactorily. I have also opened a capsule containing a vaccine crust that had been kept here for one month, and it also seems to have lost none of its efficacy as the case inoculated has taken. This will appear the more striking when it is recollected, that to preserve the vaccine virus hitherto in Singapore, even for a few days, has been almost impossible; that this settlement, notwithstanding every exertion on the part of both private and public practitioners, has been without the benefit of this important prophylactic for an interval sometimes of two years; and that, at all times, the obtaining and transmitting this

desirable remedy has been a cause of trouble and difficulty to all the medical officers I have ever met with in the Straits.

I observe, in the *Mechanics' Magazine* for March 1847, a notice of several patents taken out for the working of this article by Mr. Charles Hancock, in which an elaborate process is described for cleaning the gutta, as also mention of its having a disagreeable acid smell. The gutta, when pure, is certainly slightly acid—that is, it will cause a very slight effervescence when put into a solution of soda, but is unaffected by liquor potassa. The smell, although peculiar, is neither strong nor unpleasant, so that the article experimented upon must have been exceedingly impure, and possibly derived a large proportion of its acidity from the admixture and fermentation of other vegetable substances. Again, it appears to me that if the gutta be pure, the very elaborate process described as being necessary for cleaning it, is superfluous. The gutta can be obtained here in a perfectly pure state by simply boiling it in hot water until well softened, and then rolling it out into thin sheets, when, as I have before said, all foreign matter can be easily removed. I would recommend that the manufacturers at home should offer a higher price for the article if previously strained through cloth at the time of being collected, when they will receive the gutta in a state that will save them a vast deal more in trouble and expense than the trifling addition necessary to the original prime cost.—*Journal of the Indian Archipelago and Eastern Asia* for July.

REVIEWS.

Cooksland, in North-Eastern Australia, the Future Cotton-field of Great Britain, its Characteristics and Capabilities for European Colonisation, with a Disquisition on the Origin, Manners, and Customs of the Aborigines. By John Dunmore Lang, D.D., A.M., &c. London: Longman and Co. Pp. 496.

DR. LANG seems determined to make the most of his sojourn in England, for the benefit of the quarter of the world with which he is officially connected. We noticed a short time ago his "Phillipsland"—we have here a new work from his pen, and he further announces, for immediate publication, a third edition of his "Historical and Statistical Account of New South Wales," bringing down the history of the Colony to the close of the administration of Sir George Gipps, in August, 1846. If we add to this his numerous letters to the English and Scotch press, and his addresses and prospectuses relative to his proposed Cotton Company, we have abundant proofs that he has not been idle, and we trust his indefatigable labours will result in advantage to the Colony. Publicity will necessarily do good, and particularly at this time, when free emigration has been resumed.

We have before remarked that we do not agree on many points with the doctor,—his bigotry and intemperate language are misplaced and injudicious. If he had merely confined himself to giving us the results of his experience, his opinions on the climate, the resources, the advantages of the Colony, &c., we should have been satisfied, and his book could have been studied with unalloyed pleasure. As it is, the valuable nature of the information furnished far overbalances the few blemishes and defects of hasty composition and unrestrained invective.

There is much too little, however, of the doctor's own writing in the volume before us, which is essentially a compilation from the writings and reports of Perry, Oxley, Wilson, Flinders, Sir Thomas Mitchell, Leichardt, and others. Indeed, our author candidly tells us his desire is rather to submit to the reader the testimonies of men of character and standing of all classes and professions, in regard to the physical character and capabilities of the extensive and important region which forms the subject of the work, than to amuse him with his own speculations. This is all very well—but we should like to have had more from the doctor's own pen; for, barring controversial topics, he is a sensible writer, and a man of varied attainments and large experience.

The doctor has a mortal antipathy to the military, and takes care to lavish abuse upon "soldier officers," "the scarlet-coloured and pipe-clayed understandings," but he consoles himself for their sins of omission and commission by the inquiry—"What else can be expected from the system of employing men, whose very business and profession it is to destroy the noblest work of God upon earth—his creature, man—in whatever unjust and unnecessary quarrels their masters may choose to strike up for their benefit?"

All constituted authorities, from the "thirty tyrants" down to the Surveyors General, come in for a share of the doctor's vituperation and reprobation.

He thinks that the Colonists should be mightily indignant "at the manner in which they are thus be-generaled and be-coloneled everywhere."

This is all very paltry, and what we should not have anticipated from a man of the doctor's common sense and depth of perception. Sneers and gibes at religion, and its observances, as by law established, are sadly, too, out of place in the mouth of a Christian minister—Presbyterian though he be.

But let us proceed to consider the work before us in its utilitarian character as a whole, rather than dwell upon the extreme partisanship and unguarded expressions which, in some cases, mar and obscure the descriptive text.

The Moreton Bay District is the extreme northern portion of the settled Colony of New South Wales, and this Dr. Lang proposes to designate Cooksland. To this sponsorial right which the author has assumed, we have on a former occasion objected.

The Northern District extends from the 30th parallel of south latitude to the Tropic of Capricorn. It will, therefore, present a coast line of 500 miles to the Southern Pacific, while its superficial extent will be nearly equal to that of New South Wales Proper, or the Middle District. Its present population does not exceed 5,000 souls.

Rivers of Cooksland.

"There is no part of the territory of New South Wales so well supplied with streams of water and navigable rivers as Cooksland. A bare enumeration of these rivers, of some of which a more particular account will be given hereafter, will satisfy the reader that this is no exaggeration. The *first*, therefore, of the rivers we meet with in Cooksland, in travelling northward, and the largest yet discovered on the east coast of Australia, is the Clarence River, which empties itself into the Pacific at Shoal Bay, in latitude 29½° S. This river is navigable for steamboats of 100 tons, for upwards of eighty miles from its mouth, and has various tributaries navigable also for many miles. The *second* of these rivers is the Richmond, of which the embouchure is in latitude 28° 55′ S., only forty-five miles to the northward of the Clarence. This river is navigable also for fifty miles from its mouth, while its capabilities in other respects are of the highest order. The *third* of these rivers is the Tweed, which falls into the Pacific at Point Danger, in latitude 28° 8′ S. forty-seven miles to the northward of the Richmond, and is navigable also for some distance from its mouth, but how far I have not been able to ascertain, as it has hitherto been resorted to only by casting vessels from Sydney engaged in the Colonial cedar trade. In latitude 27° 55′ S., in Moreton Bay, we find the *fourth* of these rivers, called Kumera-Kumera or Arrowsmith, which is navigable for small vessels fourteen miles from its entrance; the *fifth*, also within the Bay, and a much larger river, being the Logan, in latitude 27° 45′ S., of which the principal tributaries form the drainage of Mount Lindsay, and the country towards the coast-range. To what distance from its mouth this river may be navigable for steamboats, I have not ascertained, as it is still very much out of the usual track of persons visiting Moreton Bay. The *sixth* river is the Brisbane, in latitude 27½° S.; it is navigable for steamboats, and actually navigated by these vessels for seventy-five miles from its mouth, to the head of the navigation of the Bremer river, one of its tributaries which lies more directly in the course of persons travelling to the interior than the principal stream: the latter is navigable for a considerable distance, at least fifty miles higher up. The *seventh* is the Pine River, in latitude 27° 10′ S., and is similar to the Arrowsmith. The *eighth* is the Cabulture or Deception River, towards the northern extremity of the Bay, but whether it is navigable or not, I have not ascertained. The *ninth* is the Marcotchy-Doro or Black Swan River in latitude 26° 45′ S.—evidently, from the width of its estuary, a considerable stream, and available for steam navigation, but as yet unexplored. The *tenth* is the Wide Bay River, in latitude 25° 55′ S. It is navigable for fifty miles from its mouth. The *eleventh* is the Dunkelba River, unvisited as yet by any white man, with the exception of a Scotch convict from Moreton Bay, who had lived for many years among the black natives of that part of the Colony. According to that individual, of whom I shall have occasion to speak more particularly hereafter, it is a considerable stream, available for steam navigation, and remarkable for the quantity of cedar on its banks. The *twelfth* is the Boyne River, which falls into the sea at Port Curtis, or Keppel Bay, in latitude 23° 59¾′ S. This river was ascertained to be navigable in the lower part of its course, by the late John Oxley, Esq., Surveyor-General of New South Wales, so long ago as the year 1823; but so little interest has been taken since that period by our Colonial authorities in the progress of geographical discovery along the coasts of Australia, that it remains as yet unexplored. It rises far inland to the southward, and must pursue a course of at least 300 miles."

Touching the proposed Colony of North Australia, we have the following remarks; and it is to be regretted the preliminary surveys suggested had not first been made, so as to have all things in readiness for the settlement, instead of the Irish fashion adopted, of sending the expedition, stores, settlers, &c., to an unknown spot to look out for a suitable location, resulting, as might have been anticipated, in a ruinous expense and total failure, the abandonment of the project having been resolved upon.

"Presuming, therefore, that it is the object and desire of Her Majesty's Government that the future Penal Colony of North Australia should eventually become a free Colony,

the seat of commerce and manufactures, and the chosen abode of an industrious and virtuous people, I would have this ultimate destination kept steadily in view from the formation of the first settlement within its territory. With this view I would recommend that, in the first instance, its limits should be permanently fixed, its entire coast-line accurately surveyed, and its capabilities both by sea and land thoroughly ascertained. Such a survey as even Captain Flinders made of Shoal Bay, Moreton Bay, and Port Curtis, would evidently be insufficient for this purpose, as it might leave the most important rivers or inlets along the coast undiscovered. The survey must be one of so minute a description as to leave no nook or corner along the whole line of coast unexplored, and with this view an expedition by land, to follow up that of Dr. Leichardt, to Cape York—the northern extremity of the Australian land to the eastward of the Gulf of Carpentaria—would be indispensably necessary. Such an expedition, by keeping towards the Pacific on its outward course, and towards the Gulf on its return, would cross every important stream in the territory, and show at once what part of the coast-line would be the most suitable to fix on for the future emporium of its commerce and the seat of its Government. This point being ascertained, therefore, I would recommend that the available convict labour of the settlement should be expended, not in attempting to raise food of any kind for the consumption of the convicts and troops (for this could in all probability be supplied at a much cheaper rate from the neighbouring free colonies of New South Wales and Cooksland), but in those works of indispensable necessity for a community of British origin which the nature of the harbour and the sight of the future capital would suggest, such as the formation of quays or wharfs, roads or streets, the construction of tanks or reservoirs, if necessary, and the erection of public buildings. In this way much valuable property, in the shape of building allotments, &c., &c., would be created, the sale of which, on the opening up of the settlement for freemen, would reimburse the Government for a large portion of the expenditure incurred, while the comfort of the Colonists and the advancement of the Colony would be greatly promoted. Nor should this process be confined to the mere capital of the new Colony. Secondary towns would spring up rapidly in suitable localities both along the Pacific and along the Gulf of Carpentaria, and if the Government should only make a judicious choice of the sites for such towns, it would not only secure for itself the direction of the rapidly increasing stream of population and its guidance into the proper channels, but provide for the eventual repayment, in the way I have already indicated, of a large portion of the expenditure incurred in their formation."

At the fourth chapter we are favoured with an interesting account of the author's visit to Moreton Bay in the close of 1845, and this is one of the most readable portions of the book. We give an extract or two.

Abundance of Fish.

"There is no place near Sydney where fish is in such abundance, or of such excellent quality, as at Moreton Bay; and in the event of a large free immigrant population being settled in that part of the territory, a fishery could be established in the Bay with great facility, not only for the supply of a large commercial town, but for curing and exportation. The species of fish that are commonest in the Bay are mullet, bream, puddinba (a native name, corrupted by the colonists into pudding-ball), kingfish, jewfish, blackfish, whiting, catfish (a fish with a large head, resembling a haddock in taste), &c., &c. The puddinba is like a mullet in shape, but larger, and very fat; it is esteemed a great delicacy. Cod and snapper are the species most frequent at the Flat Rock outside the entrance.

"Turtle are very numerous in their proper season, particularly at Kaneipa, the southern extremity of the Bay, where small coasting vessels take in cedar for Sydney. An intelligent black native whom I met with on the Brisbane River, about the middle of December, when asked when the turtle would come to the Bay, held up five fingers in reply, saying, "that moon;" signifying that they would come about the middle of May. The greatest excitement prevails in *hunting* the turtle (for it can scarcely be called fishing), black natives being always of the party, and uniformly the principal performers. The deepest silence must prevail, and if the slightest noise is made by any European of the party, the natives, who assume the direction of affairs, frown the offender into silence. They are constantly looking all around them for the game, and their keen eye detects the turtle in the deep water, when invisible to Europeans. Suddenly, and without any intimation of any kind, one of them leaps over the gunwale of the boat, and dives down in the deep water between the oars, and perhaps, after an interval of three minutes, reappears on the surface with a large turtle. As soon as he appears with his prey, three or four other black fellows leap overboard to his assistance, and the helpless creature is immediately transferred into the boat. A black fellow has in this way not unfrequently

brought up a turtle weighing five hundred weight. Great personal courage, as well as great agility, is required in this hazardous employment, the black fellows being frequently wounded by the powerful stroke of the animal's flippers.

"Large crabs, frequently of three pounds' weight, are plentiful in the Bay. They are of a flatter form than the European species, and have an additional forceps. Shrimps are also found in great numbers.

"But the fish, or rather sea-monster, peculiar to Moreton Bay, and the east coast to the northward, is a species of sea-cow or manatee, called by the black natives *yungan*. It frequently weighs from twelve to fourteen hundred weight, and the skeleton of one of them that was lately forwarded to Europe, measured eleven feet in length. The yungan has a very thick skin, like that of the hog with the hair off. It resembles bacon in appearance very much (for I happened to see a flitch of it myself in the hands of a black native, although I did not taste it, which I rather regretted afterwards), and while some parts of the flesh taste like beef, other parts of it are more like pork. The natives are immoderately fond of it; it is their greatest delicacy; and when a yungan is caught on the coast, there is a general invitation sent to the neighbouring tribes to come and eat. The man who first spears the yungan is entitled to perform the ceremony of cutting him up, which is esteemed an office of honour; and the party, whatever be their number, never leave the carcase till it is all gone, eating and disgorging successively till the whole is consumed."

Moreton Bay Fig Tree.

"This tree bears a species of fig, which I was told (for it was not in season at the time) is by no means unpalatable, and of which it seems both the black natives and the bronze-winged pigeons of the Australian forest are equally fond. The latter frequently deposit the seeds with their dung in the forks or natural hollows of forest trees, where the seeds take root and very soon throw down a number of slender twigs or tendrils all round the tree, from a height of perhaps twenty or thirty feet, to the ground – being apparently a harmless parasite, which it would be unfeeling to disturb. As soon, however, as these tendrils reach the earth, they all successively strike root into the soil, and anon present the appearance of a number of props or stays around an old ricketty building, or rather of a rising favourite at court gradually supplanting his predecessor and benefactor, who has brought him into notice, in the good graces of his sovereign, and finally accomplishing his ruin. The fate of the parent-tree that has nourished these step-children is either speedy or protracted according to its nature; but nothing in the Australian forest can long resist the fatal embrace of the native fig-tree, and the tree around which it has thus sprung into parasitical life is doomed eventually to die. The tendrils, which have then perhaps attained the thickness of a man's limb, or it may be of his body, intertwine their branches, and gradually filling up by their lateral expansion the hollow left by the wasting away of the parent-tree, exhibit at length a gigantic specimen of Australian vegetation. I afterwards met with one of these trees in the rich alluvial land on Breakfast Creek, a few miles from Brisbane, on the north side of the river. I could not ascertain its height, but it measured 42 feet in circumference at five feet from the ground. At that height, spurs were thrown out from it at an angle of 45 degrees all round. The specimen in Dr. Simpson's garden had fortunately attached itself to an iron-tree—the hardest and heaviest species of timber in the district. The parent-tree, which was still in life and in vigorous vegetation, may have been 18 inches in diameter, and the tendrils which clasped it round so affectionately were each only about the thickness of a man's leg; but the iron-tree was evidently doomed to die under the resistless grasp of this ungrateful parasite, and it required no stretch of fancy to imagine the agony it was suffering, or to liken it to a goat or deer dying under the horrible embrace of a boa constrictor or polar bear."

Native Delicacies.

"In the mean time, one of the other black fellows took the snake, and placing it on the branch of a tree, and striking it on the back of the head repeatedly with a piece of wood, threw it into the fire. The animal was not quite dead, for it wriggled for a minute or two in the fire, and then became very stiff and swollen, apparently from the expansion of the gases imprisoned in its body. The black fellow then drew it out of the fire, and with a knife cut through the skin longitudinally on both sides of the animal, from the head to the tail. He then coiled it up as a sailor does a rope, and laid it again upon the fire, turning it over again and again with a stick till he thought it sufficiently done on all sides, and superintending the process of cooking with all the interest imaginable. When he thought it sufficiently roasted, he thrust a stick into the coil, and laid it on the grass to cool, and when cool enough to admit of handling, he took it up again, wrung off its head and tail which he threw away, and then broke the rest of the animal by the joints of the vertebræ into several pieces, one of which he threw to the other black fellow, and another

he began eating himself with much apparent relish. Neither Mr. Wade nor myself having ever previously had the good fortune to witness the dressing of a snake for dinner by the black natives, we were much interested with the whole operation, and as the steam from the roasting snake was by no means unsavoury, and the flesh delicately white, we were each induced to try a bit of it. It was not unpalatable by any means, although rather fibrous and stringy like ling-fish. Mr. Wade observed, that it reminded him of the taste of eels; but as there was a strong prejudice against the use of eels as an article of food in the west of Scotland in my boyhood, I had never tasted an eel, and was therefore unable to testify to the correctness of this observation. There was doubtless an equally strong prejudice to get over in the case of a snake, and for an hour or two after I had partaken of it, my stomach was ever and anon on the point of insurrection at the very idea of the thing; but thinking it unmanly to yield to such a feeling, I managed to keep it down.

"We had scarcely finished the snake when Tomboor-rowa and little Sydney returned again. They had been more successful this time, having shot two wallabies or brush kangaroos and another carpet-snake of six feet in length. A bundle of rotten branches were instantly gathered and thrown upon the expiring embers of our former fire, and both the wallabies and the snake were thrown into the flame. One of the wallabies had been a female, and as it lay dead on the grass, a young one, four or five inches long, crept out of its pouch. I took up the little creature, and, presenting it to the pouch, it crept in again. Having turned round, however, for a minute or two, Gnunnumbah had taken it up and thrown it alive into the fire; for, when I happened to look towards the fire, I saw it in the flames in the agony of death. In a minute or two the young wallaby being sufficiently done, Gnunnumbah drew it out of the fire with a stick and eat its hind quarters without further preparation, throwing the rest of it away. It is the etiquette among the black natives for the person who takes the game to conduct the cooking of it. As soon, therefore, as the skins of the wallabies had become stiff and distended from the expansion of the gases in the cavity of their bodies, Tomboorowa and Sydney each pulled out one of them from the fire, and scraping off the singed hair roughly with the hand, cut up the belly and pulled out the entrails. They then cleaned out the entrails, not very carefully by any means, rubbing them roughly on the grass or on the bushes, and then threw them again upon the fire. When they considered them sufficiently done, the two eat them, a considerable quantity of their original contents remaining to serve as a sort of condiment or sauce. The tails and lower limbs of the two wallabies, when the latter were supposed to be done enough, were twisted off and eaten by the other two natives (from one of whom I got one of the vertebræ of the tail and found it delicious); the rest of the carcases, with the large snake, being packed up in a number of the *Sydney Herald* to serve as a mess for the whole camp at Brisbane. The black fellows were evidently quite delighted with the excursion; and on our return to the Settlement they asked Mr. Wade if he was not going again to-morrow."

The fifth chapter is devoted to an enumeration and description of the *natural* productions of the district. Dr. Leichardt found not fewer than 110 different species of trees, exclusive of parasitical plants and shrubs in the brush or alluvial flat-land of Moreton Bay, and twenty-seven in the open forest, the number of different species in European forests being generally not greater than ten or twelve; and along only thirty paces of a cattle track Dr. L. and Mr. Kent noticed not fewer than seventeen different species of grass in seed at the same time, independently of whatever additional number might have passed their usual seed time, or not arrived at it.

The indigenous trees are the Moreton Bay pine and the Bunya pine, red cedar, iron bark, blue gum, box, rose or violet wood, silk oak, forest oak, and tulip wood. Valuable gums abound; and honey is so plentiful that one settler, who had turned his attention to the subject, disposed last season to a brewery of 25 cwt. at 3d. a pound.

In the next chapter, devoted to a consideration of the artificial productions for which the climate is adapted, Dr. Lang mentions as having been grown freely, wheat, barley, maize, the common and sweet potatoes, arrowroot, the pomegranate, the orange tree, the cotton tree (Sea Island), the peach, the pear, the sugar-cane, the bamboo, the mulberry tree, the castor-oil tree, the banana (two varieties), the pine apple, strawberries, cabbages, onions, carrots, peas and beans, &c. The admixture of productions of the tropical and temperate climates cannot fail to strike the reader.

The vine does not seem to flourish in this district, owing to the periodical rains

occurring at the season when the grapes ripen. Tobacco, indigo, and the mulberry tree are recommended as suitable subjects for cultivation. It is to cotton that the doctor looks as the chief staple production of the country, and to the advocacy of its growth and culture he devotes a large portion of his remarks. To this object he has also given himself up almost entirely since his arrival here; and to compass the end of establishing a company for the purpose, he has been agitating in various quarters. We heartily wish him success in the object he has in view; but we fear he will find the task at the present moment, in the face of severe monetary pressure, a Herculean and most disheartening one. Dr. Lang is one of a thousand men, and is not easily daunted in any project or task which he undertakes.

The doctor's visit to Pernambuco, on some former occasion, and touching there on his return home during his last voyage, gives him an opportunity of launching out into a disquisition on slavery, and a bitter attack on Popery—a digression which might well have been spared in a work on Northern Australia.

We will content ourselves with quoting from this portion of the work the mode of

Cultivating and Manufacturing Sugar in the Brazils.

"On arriving at the engenho, we found that the crop of canes had been all cut, and was then undergoing the operation of being converted into sugar. For this purpose, the canes are cut as near the ground as is thought proper, to secure the whole of the saccharine matter, and the leaves and tops being then cut off, the latter are burnt on the fields with the roots, to manure the ground, I presume, for the next crop. The canes are then pretty much like walking staffs, only a little longer, and in this state they are packed into as primitive a machine as I have ever seen. It is a sort of wooden pannier, fitted to a correspondingly rude saddle, on the back of a horse, and forming a basket or frame, of which the end view resembles the letter V, on each side of the animal, and which reaches nearly to the ground. Into these baskets or panniers, the canes are packed, and the horse is then led or driven with his load by a negro to the engenho or mill. The engenho consists of a long wooden shed, roofed, as is usual in the Brazils, with tiles. These tiles are very differently formed from ours. They are like the ridge tiles used in England, and the lower series (for there are always two), are laid with the concave side up; the upper series being laid with the convex side up, so that each upper row of tiles, from the eaves to the ridge, covers the edges of the two adjoining rows below, the concave surface of which serves as a channel or gutter for carrying off the water from the upper row in seasons of rain.

"At the extremity of the shed, there was a common undershot water wheel—for there seemed to be no want of water in the vicinity—which set in motion in opposite directions two rollers, leaving a space between them sufficient to admit the end of a single sugar-cane, which a negro, conveniently seated for the purpose on an elevated bench, supplies one after another, as the former disappear, and which are handed to him by another negro from the heap of canes outside, on which the horses, with the letter V panniers, have discharged their loads. The cane very speedily disappears between the rollers, a few revolutions of which are sufficient to bruise it into a flat ribbon, and to express the whole of its juice; a third negro being employed in removing the bruised canes, on which some cattle were feeding near the mill. Beneath the rollers there is a receptacle for the juice, which runs foaming like milk from a cow in the pail, along a wooden trough which conveys it through a strainer, into a large vat, formed apparently of common clay. At this vat a fourth negro stands with a pole about twelve feet long, having a large tin ladle at the end of it, the pole being suspended at about four feet from the ladle by a cord from the roof. This ladle the negro ever and anon dips into the liquid, by topping up the extremity of the pole; and then depressing the latter, he raises up the ladle somewhat above the level of the first vat, and pushing it in the proper direction, pours its contents into one or other of three or four boilers ranged along the wall, and considerably elevated on a sort of platform, in which the liquor is boiled. A fifth negro is employed in skimming off the scum from the surface of the boiling vats, and a sixth in supplying fuel, chiefly twigs and saplings, to the furnace which heats the boilers below. Under this process the juice, when cooled, acquires a very agreeable taste, and may be drunk with impunity.

"When the process of boiling has been carried to a sufficient extent, the liquor is transferred into earthen coolers, like large flower-pots, arranged longitudinally along a series of planks, laid across a portion of the shed, having a round hole excavated right through the plank, under the spot where each cooler rests, that the molasses which escape from the crystallising mass of syrup, by a hole in the bottom of the cooler, may

run off freely. At the opposite extremity of this part of the shed, there is a common receptacle for the molasses, which flow from the whole of the coolers.

"When it is intended to improve the colour and quality of the sugar, at the expense of quantity, the simple application of clay to the crude mass produces a remarkable change in its whole substance, of which, however, it is not necessary to explain the rationale.

"When the mass in the coolers has been sufficiently crystallised, and the molasses drained off, the sugar is spread out upon a series of tables, having each a wooden rim to prevent any from falling off, and it is then dried in the sun, and forthwith packed up for sale or exportation. In short, the whole process is exceedingly simple, and the machinery, although of the rudest and cheapest description imaginable, is quite sufficient for the manufacture of an article of produce which forms one of the great staples of the country. I should have formed a very different estimate of the real requisites for the manufacture of sugar, if I had only seen one of our own great estates in the West Indies, under the old regime, having an establishment perhaps of 500 or 600 slaves, with extensive buildings and costly machinery."

Satisfactory evidence is adduced as to the salubrity of the climate of Northern Australia, and we pass on next to the adaptation of the territory for immediate and extensive Colonisation :—

"There are two classes of persons in the Mother-country for whom, it appears to me, emigration to Cooksland would be likely to prove highly eligible; the first is that of persons of moderate capital, able to purchase a sufficient extent of land for a cultivation farm, and to effect a settlement upon it—erecting a bush-house—clearing, fencing, breaking up, and cropping a moderate breadth of ground for a garden and orchard and for agriculture—purchasing a team of bullocks, a few milch cows and a riding horse—hiring one or two farm-servants, if the emigrant's own family should not afford a sufficient amount of labour for all purposes, and providing subsistence for the whole establishment for a twelvemonth. The settler of this class would purchase either 80, 160, 320, or 640 acres,—that is, either the eighth part of a section, a quarter section, half-a-section, or a whole section or square mile, of land, according to his means. This, at the present minimum price, would cost a pound an acre—a price which, I have no hesitation in stating my belief and conviction, the land is well worth to any industrious family. A large proportion of the alluvial land in the territory of Cooksland (especially on the Richmond and Clarence Rivers, on the Logan River, at Limestone and Normanby Plains, on the Brisbane, and on the Darling Downs) is naturally clear of timber, and consequently requires no outlay whatever previous to fencing and breaking-up for cropping."

"It is not advisable even for a respectable family, possessed of considerable means, to expend much money in the first instance in the erection of a house on their Australian farm. The best situation for a dwelling-house, even on a small farm, if at all wooded, is not always selected in the first instance, and the time and money requisite for the erection of a permanent residence may be much better expended otherwise. A slab-house, with or without deal-floors and glass windows, and covered with bark, costing from 10*l.* to 50*l.*, according to its size and conveniences, will afford a sufficiently comfortable accommodation for any family for a few years in so mild a climate as that of Cooksland; and if the proprietor be a man of taste, selecting a proper site for his cottage on a gentle rising ground in full view of the river, festooning the rustic columns of his verandah with the vine, or with any of the beautiful flowering parasitical plants of the country, and disposing orange-trees, fig-trees, olives, and pomegranates, interspersed with patches of bamboos, bananas, and pine-apples, in ornamental groups in front, even Calypso and her Nymphs would not disdain to rent the cottage for summer-quarters, if they happened to land in Australia.

"There are hundreds, nay thousands, of small farmers in the Mother-country toiling from year to year for a bare subsistence, perhaps to make up their rack-rent for some heartless landlord, who if they could only muster capital sufficient to purchase the smallest extent of land I have mentioned on one or other of the rivers of Cooksland, and to settle, with a team of bullocks and a twelvemonth's supplies, on that land, would infallibly find themselves, at the end of that period, on the highway to comfort and independence. Their stout sons and daughters, for whom it is so difficult to find a proper outlet, suitable to their habits and feelings, under existing circumstances in Great Britain or Ireland, would be a treasure to their parents on their arrival in Australia, and would soon be all settled as independent Colonial farmers on their own account, or the wives of such farmers, perhaps, in the same district as their parents. But if such farmers themselves should choose rather to toil on at home, than to endeavour to better their fortunes abroad, why should their sons follow their example, and thereby, in all likelihood, descend gradually into the class of mere labourers or hired servants? Let

these young men be enabled to marry, to emigrate, to purchase a small Colonial farm, and to settle on that farm in the way and with the prospects I have detailed, and their parents will not only be consulting the best interests of their offspring at least for the present life, but conferring the greatest possible benefit upon the Mother-country and the Colonies.

"But it is not only the class of small farmers and their sons for whom emigration to Cooksland would be a highly prudent and proper enterprise; there are numberless respectable persons of all classes in the Mother-country, with small capitals, of from 100*l.* to 500*l.* each, for which they can find no profitable employment in business, without the utmost hazard of its entire loss, and with rising families of sons and daughters, for whom the prospect at home, in the present overstocked condition of every profession and business, is sufficiently gloomy, who, I am confident, would find it their interest, in every sense of the word, to emigrate as small farmers to such a country as Cooksland."

"The other class of persons for whom Cooksland would prove a highly eligible field for emigration, is that of mere labourers, whether agricultural labourers or shepherds. There is a very considerable and yearly increasing demand for both of these classes of labourers already; but in the event of a large emigration of small capitalists, to embark in Australian farming, the demand for agricultural labourers in particular would be increased perhaps a hundred-fold, while a wide and promising field for all other departments of industry would be created simultaneously. Nor is it at all necessary that those who should emigrate to this territory to depend entirely on the labour of their hands, should either have been farm-labourers or shepherds at home; a common weaver can be transformed with the utmost facility into an Australian shepherd, and any person of industrious habits will very soon acquire all the knowledge and experience that are requisite for a farm-labourer. I should be sorry, however, to recommend any persons of this class of society to emigrate to Australia under the idea of their remaining permanently, or indeed for any considerable time, in the class of mere servants or labourers. The peculiar recommendation of emigration to this description of persons is the facility with which the mere servant or labourer, if at all industrious and frugal, can be transformed into a proprietor of land and stock and an employer of labour."

The remainder of the volume is devoted to a notice of the squatting system, and to the advantages which the country round the Moreton Bay district offers for grazing purposes and to notices of the Aborigines—ground which we have amply gone over before—and full details of Sir Thomas Mitchell's and Dr. Leichardt's expeditions into the interior, consisting of the official reports and dispatches which have long since appeared in the *Colonial Magazine*.

The doctor hits his countrymen hard in the following passage, when alluding to the thousands and tens of thousands of Scotsmen who have emigrated to all the British Colonies during the last 150 years:—

"If there is money to be made in a British colony, however remote, however unhealthy, Scotsmen are sure to find their way to it in sufficient numbers; but as to anything like an enlightened and vigorous effort, at all worthy of the intellect and the enterprise of Scotland, for the welfare of her children in the Colonies—as to any Scotsman of independent fortune emigrating to these infant empires, to secure to them the institutions of his glorious fatherland—the thing is unheard of, and has never occurred. In short, it cannot be denied that the Scottish nation, as an integral part of the great community of the United Kingdom, has come infinitely short of its proper duty in the important matter of emigration and colonisation for the last century and a half; for in all her relations to that highest political vocation of any people, Scotland has unquestionably worshipped the god Mammon with an exclusiveness of idolatry that has left no room whatever for any nobler object.

"In consideration, therefore, of the little they have hitherto done for the Colonies, as well as in consideration of the various other important objects recommended in this volume, I trust my fellow-countrymen will be prepared to receive this appeal for their assistance and co-operation, in the way of a great effort for the promotion of extensive Colonisation, with the same earnest desire to promote the real honour and glory of our nation, and the best interests of our people both at home and abroad, in which it originates."

Treating of a comparatively unknown quarter, "Cooksland" has claims to attention, and while condemning some portions of the observations, we must, in all justice, award credit to the industry which has amassed so much new and valuable information respecting a portion of country, which we hope, ere many years are passed, to see well peopled with thriving and prosperous settlers. We ought not to omit mentioning that the work is illustrated by a good map and several neat sketches of scenery, &c.

Free Trade and the Cotton Question with reference to India, being a Memorial from the British Merchants of Cochin to the Right Hon. Sir John Hobhouse, Bart., M.P., President of the Board of Control. By Francis Carnac Brown, Esq. Effingham Wilson, London.

Mr. Brown gives in the outset some account of himself, which it is necessary that we should transcribe in order to a more correct appreciation of the matter before us. He says—

"My family has been established on the coast of Malabar, for a period of more than seventy years. My father, the late Mr. Murdoch Brown, besides having been extensively engaged in commerce there, was the first and the oldest English proprietor of land in South India. To his property I succeeded, and I now hold it. He was the person of whose services, from his perfect knowledge of the language and his intimate relations with the Princes and people of the country, the East India Company made use in obtaining the first subsidiary treaty concluded with the Raja of Travancore; and he was specially requested by them to negociate in their name with the Raja of Cochin, not then a tributary.

"After Mr. Brown's decease, it was I who, fifteen years ago, first brought to the notice of the Government of Madras the circumstances and condition of Cochin; a representation which led to its tardy restoration to the rank of a British port. My connection, therefore, with it, and with the Province of Malabar, in which it is situated, is not only hereditary, but direct, personal, and intimate, and such as no other Englishman has had. It is for this reason that I presume to present the memorial to you, and that I now respectfully beg leave to draw your attention both to its statement and to its prayer."

The writer then goes over the past and present history of Cochin, in which it is unnecessary that we should follow him, however interesting the facts may be. The memorial which he presents, is signed by six firms of British merchants, and one native firm, who have gone and established themselves at Cochin, and are now embarked in an increasing trade, principally with England direct.

"They pray—first, that the Government of Her Majesty will cease longer to treat the produce of the two tributary and wholly dependent states of Cochin and Travancore, on its importation by the Memorialists into England in British ships, like foreign produce coming from the possessions of Spain, Holland, or Brazil, kingdoms not tributary, but altogether independent and powerful; secondly, that all frontier duties imposed on goods and produce passing from the territories of the East India Company into those of the two native states may be abolished, and the trade of three conterminious countries closely united together by nature, and forcibly separated only by warring custom-houses, may at length be freed from the suicidal taxes and impediments which have hitherto vexed and strangled it."

Mr. Brown urges the claims of Cochin to be erected into a free port.

"Like Singapore, Cochin is a good port, with a few miles of dependent territory, situated in the heart of native states, and altogether isolated by them from the Company's territories; freely open to the sea and to a long line of coast, north and south, and communicating with the countries in the interior by numerous navigable rivers and by a natural Backwater, upwards of two hundred miles long, capable of being greatly and beneficially extended for another 100 miles at a trifling comparative outlay. The countries in the midst of which it is situated, are as fertile as any on the globe; they are inhabited by a civilised and intelligent people, who, until the dominion of the East India Company, fifty years ago, had carried on for ages an unfettered and lucrative commerce in all the great staple commodities, their own spontaneous growth, which form the basis of the increasing trade of Singapore with Europe, and with the neighbouring islands and states of the Eastern Sea. For eight or nine months of the year, the winds prevailing north of the Line in the Indian Ocean ensure a quick, safe, and certain voyage to Cochin and the ports on the Malabar coast, to ships sailing from every part of the extensive coasts washed by that sea, both in Asia and Africa. We have seen that in the time of Fra Bartoloméo, numerous vessels from Muscat and the Arabian Gulf were in the practice of making thither two yearly voyages; and we have seen what steps were taken, on the accession of the Company, to cause the winds of heaven to blow over a desert ocean; and annihilate an ancient, active, and most beneficial commerce. So bent were the Company at that time on extinguishing all direct trade between India and other countries, especially with England, that the Court of Directors scrupled not to send out a positive order, designed to ruin the only British merchant (the late Mr. Brown), who was then engaged in the trade from Malabar. This was the return Mr. Brown received, when no longer wanted, for his acknowledged gratuitous public services."

"The resources of the native states of Travancore and Cochin are great, but must

remain undeveloped as long as the present restrictions on trade exist; but if these be abolished, tracts of land unfitted for native industry, which is almost exclusively employed in the cultivation of cocoa-nuts and paddy, but admirably adapted to the culture of the sugar-cane, cotton, coffee, nutmegs, cloves, &c., will be taken up and rendered productive. European energy, skill, and capital, will change the aspect of the country, and create a trade which can have no existence till the present almost prohibiting duties are abolished."

Mr. Brown then goes into voluminous details respecting the growth of cotton and the advantages which would accrue from our being less dependent on America for supplies, but we cannot in this place follow him in his lengthy remarks, however much we may agree with him in his facts and arguments.

We can only commend the pamphlet to the careful and patient consideration of all those interested in our eastern possessions, and we shall be glad to meet with Mr. Brown in print again.

The Calcutta Review, No. XIV. June, 1847.

THIS valuable periodical has now attained to an advanced age, at least for Oriental publications, and what is more its reputation has grown with its age; many of the numbers have already gone through three additions, and a fourth is now urgently called for. This is an evidence of the improved taste of the reading public of the Indian presidencies, which is, however, fully justified by the talent, ability, and sterling character of the articles, which would do credit to either of our home quarterlies; indeed, we have more than a suspicion that many of the papers owe their eternity to writers in this country. Be this as it may, it detracts in no degree from the value of the Review, as a standard work of reference on Indian Literature, and all that relates to the history, progress, and politics of the East.

The first article in the present number is devoted to a consideration of "Political agency in the East," founded on a review of Dr. McGregor's "History of the Sikhs." The second is a more practical paper, in which the subject of Indian Railways is again taken up, and Mr. Sims's and Mr. Macdonald Stephenson's reports are passed under review.

There is also an able biography and defence of the character of Sir Elijah Impey, the first Chief Justice of Calcutta.

The only other article we shall advert to, is an elaborate paper on the Salt Revenue of Bengal, a subject which requires agitation; and which has already been prominently and forcibly discussed by Mr. Aylwin.

Case of the Colonists of the Eastern Frontier of the Cape of Good Hope, in reference to the Kaffir Invasion of 1834-5, and 1846. By the Editor of the "Graham's Town Journal," pp. 236. Graham's Town: 1847.

THIS is a republication of various editorial articles, memorials, correspondence, &c., which have appeared in the local paper during the last few months, and which are intended to serve the purpose of placing the details of the case of the Colonists before the Ministry and the public at home.

"There can (observes the writer) be no doubt in the mind of any, but that the affairs of this frontier, in connection with the neighbouring Kaffir tribes, must, ere long, be made a matter for searching investigation. The Colonists, as well as the Government, are equally bent upon and alike interested in this. The appointment of a Colonial agent in London has been, and yet is, a favourite project with the former; but it is obvious that, in the event of this design being carried out, a primary step will be, not merely to present him with his retaining *fee*, but to furnish him with his '*brief*,' in other words, to place in his hands a lucid sketch of the case of those whose interests it will then be his duty to advocate.

"Again, it was thought that such an outline might be valuable to the British public, as well as to the home and local Governments. It is true that the information thus afforded is not new, nor hidden from the public; that, on the contrary, it is accessible to any who are sufficiently interested to seek for it; but still, scattered as it is in the ephemeral pages of a newspaper, and spread over a series of years, it is few who would be likely to take the trouble to wade through so large a mass of evidence, in order to select that with which it is so important to the Colonists the public should be thoroughly acquainted.

"The great evil under which this Colony has laboured, has been the profound *ignorance* both of the British public and Government, of the actual character, situation, and circumstances of its inhabitants. Had these been fully known, those disasters which have

overtaken this Settlement never could have happened. Justice and self interest would have alike forbidden it. But veiled as its affairs have been, the most extravagant fictions have been believed and acted upon. Partisanship has had in this country a wide field for its operations; the British public have been deluded; numbers of the Colonists ruined or destroyed; while the Government has been taught a lesson, by the demands upon its treasury, which it is certain it will not easily forget.

"It is with the hope of assisting to dispel this darkness, that these papers are now published in their present form."

"It is probable that at first sight these pages may appear to give but a partial view of the whole matter. And, in fact, the case of the Colonists is emphatically an *ex parte* one. THE AGGRESSION IS ALL ON ONE SIDE; the Colonists are entirely guiltless of having provoked offence. Even the Kaffirs themselves do not plead any such excuse for their murderous inroads and incessant plunderings, while successive Governors have officially declared that the Colonists are altogether irreproachable in their conduct towards these restless people. Such being the actual fact, and upon which they boldly challenge inquiry; they come before the country with clean hands, they appeal to the manly feeling of their fellow subjects, and they claim at the hands of their Government the redress of past injuries and security for the future."

A voluminous mass of most unquestionable evidence as to the vicious nature of our frontier policy is here adduced; and the crying wrongs of the settlers are feelingly portrayed. The authorities have too long wilfully shut their eyes to the true state of affairs, and ultimately, as we now know, they were taken by *surprise*, and the frontier was laid prostrate, the Government for the time paralysed, and the exposed inhabitants swept away, destroyed, or ruined.

The endurance of the Cape Colonists has been most severely treated, their strong memorials have been disregarded, their earnest appeals for protection and redress unattended to, until, stung by this neglect, a large number of the old frontier inhabitants, rather than continue to endure the trials to which the border farmers were subjected, resolved to plunge into the interior, beyond the pale of British jurisdiction. Happy would it have been for the Colonists, the Kaffirs, and for the Home Government, had the suggestions and representations of the Colonists had their due weight, but unfortunately they were passed by as idle tales, and the results are war, anarchy, destruction, and death.

"After detailing their grievances, and showing by reference to public documents extant, and easily accessible, the whole course and character of their affairs, the Colonists in 1836, preferred three specific requests, namely, INQUIRY, COMPENSATION, PROTECTION, and which they more fully set forth in the following prayer:—

"1. The appointment of a *Commission of Inquiry*, to investigate on the spot into those charges which have been so injuriously made against them.

"2. That they may receive *pecuniary compensation* for their ruinous losses which have recently befal'en them, and which may justly be attributed to inattention to their repeated petitions and most urgent remonstrances.

"3. For such *adequate protection* in future, against the aggressive inroads of the native tribes, as shall stimulate the plundered inhabitants to re-establish themselves on their ruined and deserted farms; as shall check that extensive abandonment of the Colony which is now in course of progress; and as shall restore that confidence in the justice and paternal regard of the British Government, which has been forfeited, to a considerable extent, by the adoption of impolitic measures, and by lending a too credulous ear to the reprehensible calumnies which have been cast upon a community of British subjects, whose humanity and loyalty they do not hesitate to declare are alike unimpeachable.

"Will it be believed that this urgent appeal was treated with the same chilling and criminal disregard as every preceding one? Will it be credited, that no inquiry was made, no compensation given; and that instead of protection, the savage invaders of the Colony were actually REWARDED for their murderous inroad; that a fresh tract of country was given them, and by which they were placed in a position where they might repeat the aggression with more ruinous and deadly effect, and with greater facility? Monstrous and fabulous as all this appears, it is nevertheless a sober reality, the consequences of which we see, and are made to feel, in the calamities that have now overspread this once smiling Province; by a repetition, in an aggravated form, of a sweep of the very same tract of country by the same robber hordes—by the destruction of the property and annihilation of the hopes of the Colonists—by an appalling loss of life—and by an expenditure of British treasure, which, considering the ease with which it might have been avoided, cannot be contemplated but with poignant regret as respects the past, and with serious uneasiness in reference to the future."

This appeal has been followed up, from time to time, by numerous urgent representations, which have all ended in disappointment.

In September, 1841, the following resolution, passed at a public meeting at Freemason's-hall, was transmitted to the Secretary of State for the Colonies, and yet, after all their struggles and remonstrances, the year closed upon them without the slightest amelioration of their circumstances. In 1843, we find the Colonists again assembled in public meeting at Bathurst, when the following resolution was unanimously passed :—

"Resolved—That this meeting views with the most serious apprehensions and alarm the present state of this frontier; owing to the continual acts of plunder by the Kaffirs, and the murders which frequently mark the inroads of those people; that these acts of aggression and violence have been greatly on the increase in this division ever since the year 1836; that the peaceful occupation of the farmers can no longer be allowed in safety; that neither life nor property is secure; and that this meeting is of opinion that these grievances arise mainly from the operation of the treaties now existing between the Colonial Government and the Kaffir chiefs, and which are not only inadequate to protect the frontier farmer against Kaffir depredation and violence, but which act as an incentive to, and a premium on, such aggression. That this meeting is further of opinion that peace will only be restored and security attained by returning to the principles of the system formerly adopted by Sir Benjamin D'Urban; that it is its firm belief, that, were these adopted and efficiently carried out, they would afford ample security to life and property, and be hailed as a general blessing throughout the Colony, and more especially the frontier districts."

The inhabitants of Albany, Port Elizabeth, Graham's-town, &c., were all, at the same time, memorialising and petitioning, without the least benefit to themselves or the Colony. From an address of the farmers of the Kaga and Winterberg—two of the most beautiful and fertile divisions of the Colony—we quote the following earnest and affecting passages :—

"The evils we have been subjected to ever since our arrival in this Colony have been so serious as to have caused about 20,000 of the industrious and peaceable Dutch farmers to fly from the Colony, and to seek a home in an unknown wilderness.

"We cannot avoid quoting the concluding words of their affecting parting manifesto :—

"'We are now quitting the fruitful land of our birth, in which we have suffered enormous losses and continual vexation, and are entering a wild and dangerous territory; but we go with a firm reliance on an all-seeing, just, and merciful Being, whom it will be our endeavour to fear and humbly to obey.'

"These heart-rending expressions were uttered in 1837 by British subjects.

"We have borne all the cruel vexations they complained of, and from that date to the date of this address we have experienced *no* amelioration of (we may say, almost no sympathy in) our distresses."

We will close our notice of this opportune little work with a tabular list of the crimes, and acts of depredation and aggression on the part of the Kaffirs, as furnished by Mr. J. C. Chase, one of the earliest Colonists, and a most able and indefatigable statist, who, we are glad to observe, has been appointed Secretary to the Lieutenant-Governor of the Eastern Province.

We would merely premise that when these returns were moved for in the Legislative Council by the Hon. Mr. Ebden, when presenting petitions from the Colonists, they were point blank refused.

Horses stolen from 1837 to ult. 1843	head	2,469
Cattle ,, ,,	,,	11,234
Murders—According to Government Returns	16	
Cases of strong suspicion	2	
Recorded in local papers before publication of Government Returns, *i. e.*, 1836–37	69	
Do. do. since do., but not appearing therein	16	
	—	103
Assaults on Person—Persons wounded	33	
,, fired on	22	
Other assaults	33	
	—	88
Thieves punished by chiefs		10
Kaffirs killed in flagrante		34
Trespasses committed on Colony, irrespective of cases of depredations		20
Infraction of treaties by the Government or Colonists		3

COLONIAL INTELLIGENCE.

INDIA.

We do not find much intelligence in our overland files, but have made a few extracts of general interest.

A letter from Assam mentions that a large Colony of men from China, not stated to be of Chinese race, have lately settled in Bor Khamti, very near our frontier. The Khamtees have been fighting in their defence, for the colonists are refugees. This is a singular fact, and should these people obtain a permanent footing on the frontier, they may become the medium of an extensive commercial intercourse with China. The distance from Upper Assam to the densely peopled and highly civilised provinces of the Chinese empire cannot be great, and if an annual fair were to be established at some convenient spot, traders would soon congregate there. We should be glad to hear some further particulars of these Colonists. If they are Chinese, not Tartars, they might be useful in the British territories, if they could be persuaded to place themselves under the protection of our Government.—*Calcutta Englishman*, July 8.

Census of Bombay.—An attempt is now making to take a census of the inhabitants of this island; but we fear from the inefficiency of the means adopted, as well as from the many difficulties which surround the undertaking, that it will be unsuccessful. There are in the island upwards of 28,000 houses, of which 1,300 are situated within the Fort. Many of those houses contain ten, twelve, nay, even twenty rooms, each of which is occupied by a family, or by an individual. During the day many of those rooms are without any occupant, and the neighbours, even the landlords, "cannot tell," or they "do not know," how many sleep there at night. In other parts of the island there are crowded fishermen's huts, which are in like manner used only at nights—and how can the inhabitants be known or numbered?

If it were possible for the persons appointed to take the census, to ask at the doors of the dwellings during the night, they might find out with something like exactness, the number of the inmates of each; but to seek by inquiries during the day they will find themselves grossly deceived, especially if any of the prejudices of the occupants teach them to form suspicions of the motives which lead to these questions.

Of the Europeans it is not difficult to have a correct census; their habits render them easily known; but when the practices and the habits of the natives, viz., Christians, Goanese, Armenians, Jews, Mahommedans, Parsees, Hindoos, Arabs, Persians, Africans, &c., besides their castes and prejudices, are taken into consideration, it must be admitted that a correct enumeration is not an easy task.

In several places of the world, when a census is wished for, the landlord or occupier of each house is required by the police to paste up a list of the persons, who live and sleep in it, on the door. The persons going round with the lists then have but little trouble in taking down those names and numbers. To effect a census in this island public notice ought to be given in all the newspapers, whether in English or in the native languages. Papers with proper directions in the various languages should be left at each house to be filled up with the names of the occupants within a certain time. The battakee, or public criers, should be sent round to explain the matter to the crowds, and then there will be at least some chance of success.—*Bombay Gazette.*

Nearly every mail from home brings intelligence of the increasing interest which the far east is exciting, and of the measures which are being projected for making her resources, natural and commercial, available through the capital and enterprise of Europe. Some months ago we had the "Malacca Sugar Company" projected, with a large proprietary and capital, to carry on the manufacture of the cane. Then we had the appointment

of a Consul-General and Commissioner to Borneo, followed up by a commercial and political treaty with the Sultan of Borneo, while the last mail brought us the intelligence of the Government having at length resolved to proceed in earnest with the settlement of Labuan, Mr. Brooke having been appointed Governor of that place, and other offices being spoken of. We have heard that there is yet a further association being organised in England for carrying on operations in this part of the world on a large scale. The title of this body is, or is proposed to be, "The Company of the Eastern Archipelago for Mining and Agriculture," which proposes to go to work with a capital of £500,000. From what we can learn, Borneo is the contemplated field of operations, and it is probable that they will begin with purchasing the antimony monopoly. There can be little doubt that such a company will find ample scope for its enterprise, whether it is confined to Borneo, or embraces the wider range of countries which its title would seem to point out. Borneo no doubt alone offers the most varied objects to which the capitalist might direct his attention when in search of means for profitable investment. Her soil, in some parts, is admirably fitted for every species of tropical cultivation, whether we look to the rearing of spices or wish to follow the less tedious cultivation of grain. In other parts, her soil teems with mineral wealth—diamonds, gold, &c., not omitting what now-a-days holds no mean place amongst minerals—coal, which is found abundant and good in various parts of Borneo. The forests of Borneo also abound in many valuable natural productions, which an active commerce would no doubt bring to light in abundance. If the company should desire to extend their views to other places, the Malay Peninsula offers an ample field in its capacity for cultivation, its extensive deposits of gold, tin, and coal, and its numerous other resources, many of which, up to the present time, have been but imperfectly, or not at all, explored. It short, it only requires that capitalists should deviate a little from the beaten path of buying and selling, and make use of the influence and opportunities which their wealth would give them, to find in the Malay Archipelago almost unbounded stores of the most valuable articles of commerce ready to be called forth by an intelligent and prudent search for them.—*Singapore Free Press.*

The "Hooghly" had gone on a trip to the northward in search of the coal reported some time ago to be existant at Trang, but, after running up nearly as far as Junk Ceylon, the quest proved unsuccessful. The *Pinang Gazette* says:—"The Siamese, who sometime ago produced the piece of coal at the Harbour Master's Office, said to have been picked up by him on a part of the coast near to *Soongie Kaju Kammounie*, about one hundred miles from this, accompanied the expedition, but, after pointing out this, that, and the other place as the spot, he at length fell sick *of a pain in his toe* and refused to travel further. The truth is, the fellow is an arrant knave. His conduct immediately before the steamer started excited considerable suspicion; the coal which he produced is believed to be nothing more than a piece picked up from some coal store in the place. The steamer afterwards proceeded as far as Girbie, where she went in search of coal on a previous occasion, and brought some fine specimens of the same kind of rock as was found last time. One slab is about five feet in diameter, and would make a very beautiful table, the rock being susceptible of a fine polish.

CHINA.

Hong Kong.—Our difficulties with China appear to thicken, and at Canton foreign commerce continues in a depressed state; the Chinese capitalists, apprehending aggressive acts on our part, withhold from their countrymen the usual banking facilities; the foreign merchants, equally unacquainted with the intentions of the British Plenipotentiary, are placed in a position of much difficulty.

The people of Honan, acting, it is rumoured, under instructions from high officials, have entered into direct communication with the representative of Great Britain, in reference to the building ground ceded to Sir John Davis in April. A memorial to Mr. Macgregor, British Consul at Canton, from the elders and gentry of Honan, was presented last month. Mr. Macgregor, as accredited agent for a foreign power, declined receiving a memorial from the subjects of China. A petition to Sir John Davis met with bet-

ter success. His Excellency, in his reply, enters into a train of reasoning on the subject of the grant, explains some points, apologises for having attempted to survey the land, and finally asks the people of Honan to suggest a piece of land in lieu of that ceded to Great Britain by China. Not content with this humiliation, his Excellency replies to the memorial refused by Mr. Macgregor, in the form of a declaration, which has been placarded in the Honan villages. In reply to these documents the elders of Honan address Sir John Davis respectfully, taking it for granted that the claim to the building site is not to be pressed; they decline, however, suggesting another eligible place, leaving that to be arranged between his Excellency and the Chinese Commissioner, knowing that, should another locality be fixed upon, the people will oppose and foil the barbarian envoy. It is said, that while his Excellency has been compromising his character as a plenipotentiary, by corresponding with the people of Honan, he at the same time has been demanding from the Imperial Commissioner possession of the land in terms of the "new agreement." We hear, and it is so likely that we are inclined to believe it, that Keying now says—"As you have come between me and the people, negotiating and temporising with the subjects of the Emperor, I cannot now enforce compliance with the agreement, as I would incur all the odium, the people asserting that you would not have forced the point in opposition to their wishes."

The Chinese of Honan think the matter settled in their favour. Their countrymen in Canton are better informed. They look upon the Plenipotentiary's fine letters as deceptive and treacherous. They say—"If Honan has been given up, why retain the troops at Hong Kong?" And being apprehensive of another hostile visit, men of capital will not issue money for commercial purposes, and trade is stagnant. The depression in the city of Canton is represented as being beyond that of any past period. From the highest merchant to the lowest shopkeeper, its effects are working certain ruin. The apprehension of an attack has destroyed confidence and paralysed the energies of the people.

Such being the state of affairs, it may be believed that the hostility towards foreigners is in no degree modified. The people justly ascribe their distress to the invasion in April; but unfortunately they are not aware that the residents of the factories are in no way responsible for that invasion, or that they disapprove of it entirely.

NEW SOUTH WALES.

Sydney papers, by way of Singapore, have come to hand, reaching to the 8th May. The market price-current shows that the Colony is in a flourishing condition. Wheat was at 4s. 7d. per bushel: the holders of Launceston wheat were holding for 5s. and 5s. 6d. The shipping lists indicate an active trade with London, the South Seas, and New Zealand. Sir Charles Fitzroy opened the last session of the first Legislative Council of New South Wales on the 4th May. The "speech from the throne" on the occasion is described as giving general satisfaction. It congratulated the members on the general condition of the Colony—the abundance, cheapness, and excellent quality, of all the necessaries of life—and the flourishing state of the revenue. The slight deficiency in the balance of 1846, as compared with that of 1845, is explained to arise from reduction of taxes, especially two—the assessment on stock for police purposes, and the duties on spirits. The amount now on credit will enable the Government to discharge, in the course of the present year, the whole of the outstanding debentures, amounting to nearly £100,000. which were issued to meet the expenses of emigration in former years. Having thus paid off old scores, Sir Charles stated that he had been induced, at the request of a numerous and highly respectable body of proprietors, to recommend the Colonial-office at home to resume the system of Australian emigration, at least, immediately, to the extent of 5,000 adults. Sir Charles Fitzroy says what may with great propriety be laid by our Mauritius friends before Sir William Gomm. "The experience I have already acquired in the Colony has strongly impressed me with the persuasion that a regular and copious supply of labour, carefully adjusted to the demand, is necessary, not only to promote, but to maintain in a satisfactory state, the chief objects of Colonial industry." Earl Grey has determined to surrender to the Colonial Legislature the

right of appropriating the casual revenue of the Crown collected in the Colony, considering that the expense of the Civil List is as great a part of the revenue as Parliament intended to withdraw, or as it is desirable should be withdrawn from the resources of the Colony.

The loss of the steamer "Sovereign," in Moreton Bay, has induced the Legislature to consider the means of placing passenger steamers under some efficient system of supervision. This, with the improvement of the great lines of thoroughfare, is to be part of the labours of the ensuing session.

The departure of Mr. Kennedy, to continue the exploration commenced by Sir Thomas Mitchell, the mystery which shrouds the chief features of the late expedition, and the discontent of those who were mainly instrumental in obtaining the grant which enabled the expedition to take the field, are all points which require to be satisfactorily explained; and we are told that they will be explained in the work which Sir Thomas proposes to publish as soon as he arrives in London. The minor expedition, which took the field under Captain Perry, will be likely to achieve more brilliant results than are generally looked for. If our calculations be not very wide of correct, Mr. Burnett ere this will have reached the embouchure of the river formed by the junction of the Boyne and Dawson, which embouchure we suspect will be found near the point that is northward of Sandy Bay. And if our information is to be depended upon, the discovery of a magnificent harbour will reward the intrepid explorers, and give a new character to the speculative notions afoot in reference to North Australia.—Sydney Correspondent to the *Port Phillip Herald*.

South Australia.—It is confidently stated that Captain Sturt has received intimation by the last vessel from England, of an appointment awaiting him at home; at any rate the gallant Captain has asked leave of absence, which has not only been granted, but he will carry with him his Excellency's most kind and honourable testimonials. A public breakfast was to be given to Captain Sturt on the day previous to his departure from the Colony. Mr. Finnis, it is expected, will be Colonial Treasurer, Lieut. Dashwood, Police Commissioner, and Captain Brewer, Clerk of Council.

AGRICULTURAL RETURN FOR 1846.

Land in Cultivation.

No. of Proprietors.	County.	Acres. Wheat.	Barley.	Oats.	Maize.	Potatoes.	Garden	Vineyard.	Total No. of acres under cultivation.
1250	Adelaide ..	19806	2453¾	1558½	86	396½	631¾	76¼	25009¾
203	Hindmarsh .	3382¼	417¾	308	15¼	142	97½	11	4374
194	Light	2533¼	472	29½	4¾	43¾	112¾	19	3214
20	Gawler	171	83	—	—	—	22	—	276
12	Stanley	86	40½	36½	—	¾	11½	—	177¾
10	Sturt	75½	13½	30½	—	¼	8	2	133½
25	Flinders	80½	9	¾	—	2	12¾	3½	108
1714		26134½	3489½	1963½	106	59[illegible]¾	890¾	111¾	33292½
1269	For the year 1845	18838	4342½	1485½	86¼	459	631 (Garden and Vineyard)		262[illegible]

Land enclosed.

No. of Proprietors.	County.	How enclosed. Post and rail fence.	Upright fence.	Ditch and rail.	Otherwise.	Total Number of Acres enclosed.
1250	Adelaide....	56953½	46[illegible]9½	1635¾	1510	64739¾
203	Hindmarsh..	11323½	395	—	1[illegible]6	11904¼
194	Light	7956	158	—	8	8122
20	Gawler.....	3666	—	—	—	3666
12	Stanley	309	115	—	6	430
10	Sturt	436	—	—	—	436
25	Flinders ...	10½	188	—	69	267½
1714		80655¼	4795½	1635¾	1779	89565½
2169	For the year 1845.....	50921½	5808	2377	3136½	62218½

Captain Grey is no longer Governor of South Australia, being appointed Governor and Commander-in-Chief of New Zealand, and Major Robe succeeds to the Governorship of this Colony.—*Adelaide Observer.*

We subjoin a comparative statement of exports, the produce of this Colony, during the years 1845 and 1846; and we question much if a document showing

more interesting results has ever before been published :—

	1845. £	s.	1846. £	s.
Alkali	1	0	0	0
Animals, living	735	0	235	0
Bacon & hams	367	13	54	0
Bark.....	883	0	1,900	0
Beer.....	4	10	0	0
Bread & biscuit	636	0	1,044	15
Beef and pork	31	0	25	0
Boots & shoes	0	0	5	0
Butter	1,615	13	800	0
Cheese	537	6	360	8
Corn, namely—				
Barley	186	0	815	0
Bran and pollard	281	10	337	0
Malt.....	31	0	0	0
Peas.....	0	0	4	0
Oats.....	197	0	0	0
Wheat.....	13,626	7	12,166	16
Flour	11,270	10	13,810	0
Eggs	1	10	0	0
Feathers	0	0	2	0
Fish.....	1	0	0	0
Fruit, fresh ..	0	0	14	0
Gum	7,119	0	1,725	0
Guano.....	0	10	0	0
Hay.....	30	0	286	0
Horns & bones	7	0	17	0
Jams	3	0	0	0
Lard	58	0	0	0
Lead, pig....	0	0	20	0
Leather	0	0	221	10
Machinery ..	101	0	0	0
Oil, black ..	1,390	0	3,005	0
Onions.....	17	6	8	0
Ore, copper..	17,197	5	140,794	5
,, lead	1,939	8	1,437	0
Potatoes	15	0	195	0
Plants & seeds	29	0	1	0
Salt.....	546	10	773	0
Slate & stones	104	0	3	0
Skin & hides	31	0	158	0
Soap	1	5	0	0
Specimens natural history	89	0	140	0
Tongues	2	0	0	0
Wine	17	0	0	0
Wood.....	35	0	62	0
Wheels	15	0	0	0
Wool	72,235	12	105,931	0
Whalebone..	544	10	817	0
	£131,800	5	£287,058	13

Nearly the only articles of any amount in which there has been a decrease, are those connected with dairy farming, which has received a severe check, in consequence of the vicious system under which the common lands have been depastured. It is hoped that the new Waste Lands and Impounding Acts will place this important interest on a better footing. There is, also, a falling off in the gum, which, we believe, arises from the great heats in the last year having come too late in the season. In most other staples, but especially in minerals, the progress has been truly immense.—*South Australian.*

Exports of Wheat.—The "Phœbe" will take about 25,000 bushels of wheat from South Australia for the British market, and the "Kallibokka," for Mauritius, will take nearly as much, making the exports of the season, at least, 150,000 bushels.—*South Australian.*

Hunter River.—The following is the total quantity of wool exported from the Hunter River District during the first six months of the season of 1846-7, with the estimated value of the same :—

October quarter.	Quantity. lbs.	Estimated value.
310 bales greasy	155,000	£ 3,713
2,131 bales washed	550,050	31,702
	709,060	£35,415
January quarter.		
420 bales greasy.....	189,000	4,725
4,719 bales washed	1,317,3 0	77,737
7,580	1,506,360	£82,462
Total ..	2,215,240	£117,877

Comparing this with the return for the same period of the season of 1845-6, the following is the result :—

1845-6.	Quantity. lbs.	Estimated value.
3,178 bales.....	2,553,400	£166,088
1846-7.		
7,580 bales	2,215,420	117,877
598 bales decrease ..	337 980	£48,211

The apparent decrease in quantity would be nearly made up by the omission in the last quarter's return of the wool received in Sydney from other places in this district than Morpeth, which is estimated at about 500 bales. To the producers who sell in the Colony the decrease shown in the value is a real one : to those who ship on their own account, it can only be regarded as nominal, because they may realise a higher price than they did for their last year's wool.

VAN DIEMEN'S LAND.

We have Hobart-town journals to the 7th May, but they are totally devoid of

news, their leading columns being altogether occupied in speculations as to the answers to be returned to the questions propounded by Sir W. Denison to the magistracy, respecting the transportation question. At a meeting numerously attended in Launceston, the following resolutions were put and passed:—

1. That the first question put by the Lieutenant-Governor, viz:—"Do you consider it desirable that the transportation of convicts to this Colony should cease altogether?" be publicly discussed.

2. That this meeting, deeply impressed with the momentous importance of the "questions" as affecting the best interest of the Colony, recommend delay, with a view to give time for collecting the opinions of the entire community upon the subject-matter of his Excellency's circular.

3. That, in the opinion of this meeting, the best mode of proceeding is to appoint a committee to inquire into and report upon the various matters connected with the subject, and to frame answers to the questions to be submitted for adoption to a public meeting, to be held at the Assembly-rooms, Launceston, at noon on the 10th May.

4. That the following gentlemen form the committee, with power to add to their number:—Messrs. H. Reed, R. Dry, James Cox, William Archer, F. M. Inness, J. A. Youl, and Rev. Dr. Browne.

MAURITIUS.

Our dates are to the 9th July, by the Overland Mail.

A committeee of the Legislative Council complain of the state of the roads all over the island, and deplore the delay in the repairs which have been so urgently recommended in former reports. The crop approaching, temporary repairs should be immediately made on the roads that are in the worst state; and in consequence of the considerable expense attending the reconstruction of the roads in their present condition, they renew the important recommendation they have previously made, of the necessity of continually keeping them in order when once thoroughly repaired.

A reduction has been made in the cartage, landing, weighing, and lighterage of our port, begun by Messrs. Mayer and Co., and followed by the other establishments. Messrs. Mayer and Co., have lately constructed, at a great expense, extensive stores, &c., on the spot formerly the Marine yard of Messrs. Piston and Co., and offer many facilities and advantages for the landing and shipping of goods.

MARRIAGES.

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By special license, on the 24th April, at St. James's Church, Sydney, by the Rev. Robert Allwood, Finney Eldershaw, Esq., of Marouan, New England, to Mary, youngest daughter of Charles Wingeyer, Esq., Police Magistrate, Sydney.

On 31st August, by the Ven. Archdeacon Willis, Rector of St. Paul's, John Longworth, Esq., Barrister-at-Law, and member of the Provincial Parliament of Prince Edward Island, to Elizabeth White, daughter of Richard Tremain, Esq., of Halifax, Nova Scotia

On 25th Aug., at St. Paul's Church, Charlottetown, by the Rev. Dr. Jenkins, Ecclesiastical Commissary, George W. Deblois, Esq, of Halifax, Nova Scotia, to Sarah Frances, second daughter of the Hon. T. H. Haviland, Colonial Secretary of Prince Edward Island.

At Christ Church, Sydney, on the 8th April, by the Right Rev. the Lord Bishop of Australia, Adolphus William Young, Esq., Sheriff of New South Wales, eldest son of John Adolphus Young, Esq., of Hare Hatch Lodge, in the County of Berks, to Jane, eldest daughter of Charles Throsby, Esq., J.P., of Throsby Park, near Berrima.

On the 3rd August, at London, Canada West, Thos. D. Hume, Esq., M.D., Surgeon to H.M.'s 82nd Regiment, to Caroline Stokes, younger daughter of Major J. J. Slater of the same Corps.

On the 2nd August, Captain J. B. Puleston, H.M.'s 82nd Regiment, second son of Sir Richard Puleston, Bart., of Emsal Park, Cheshire, England, to Jane, eldest daughter of Peter Schram, Esq., of Westminster, Canada, West.

At St. Stephen's, Penrith, New South Wales, on the 8th April, by the Rev. B. L. Watson, B.A., George Thomas Clarke, Esq., M.R.C.S., of Allan Water, Richmond-road, to Emma Rebecca, eldest daughter of the late Barnet Levey, Esq.