tion. At Little Placentia the dip of these rocks is N. W. at an angle of 60°. The N. side of the N. E. Arm of Great Placentia is composed of a porphyritic greenstone of a fine grain, with small disseminated red and white crystals. I could no where trace the junction of this rock and the other formation which forms the cliffs on the South side of the Arm. The whole of the S. E. Arm of Great Placentia and the country about is composed of the variegated slate rock, dipping either S. E. or S., at various angles of inclination. From this Southern dip we should of course expect to find the country to the South composed of the higher beds of the variegated slate rocks; I believe the whole of the country between Placentia and Cape St. Mary's to be so occupied, but was prevented ascertaining its precise character, or the position of the beds, by stormy weather and the want of a harbor along the coast. Fox Island, Red Island, Long Island, and Audierne, are composed of the most characteristic beds of the variegated slate formation. The neighbourhood igneous rocks, however, is shewn by the occurrence in the latter Island of a mass of dark purple porphyry, associated with quartz rock.

The sea coast from Cape Chapeau Rouge through Little St. Lawrence, Burin and Montier, is composed of a dark greenish grey schistose rock in which all trace of bedding is sometimes lost, but which, near the entrance of Mortier Bay, dips 60° to the S. W. On going up Mortier Bay the most singular and perplexing variety of rocks presents itself, the green schistose beds abovementioned continue for about 2 miles into the Bay, but are suddenly replaced by quartz rock in a large amorphous mass on the S. side of the Bay, while on the N. side a serpentine with bands of quartzs comes in, and over these lie patches of black shale with their beds of grey gritstone precisely like the Bell Isle shale formation, but much twisted and contorted; these latter rocks run for some distance on the N. side of the Bay into the large Cove called Spanish Room. On the S. side of the Bay the quartz rock, arter forming a lofty cliff for about half a mile, suddenly ends, and regular beds of variegated slate are found abutting against it and dipping from it in a Westerly direction. The Bay here trends to the S. W. and these rocks apparently continue along its South shore; on the opposite side of the Bay a peninsula juts out, forming the South side of Spanish room. It is nearly a mile in length, and is composed of the following rocks—(See Section No. 13) The point of the peninsula is occupied by a rock which whether to call a sandstone or a gneiss is a matter of doubt. It has evidently been formed of the detritus of a red sienite, a round pebble of which rock I found enclosed in it; but in appearance, in the slightly rounded forms of its crystalline components, and their laminated arrangement, it exactly resembles gneiss. It is tough, but not very hard; it is regularly bedded, dips to the N. W. at an angle of 70°.—And is divided into square blocks by joints that follow the dip and strike of the beds. It would make a very fair building stone, if care were taken to place it with its planes of lamination in a horizontal position The thickness exposed of this rock is about two hundred feet. To the low cliffs composed of this, succeeds a small bank of sand and rubbish, immediately beyond which is another cliff about forty feet in height, composed of beds of red and green marls, containing a mass of red sandstone and conglomerate, dipping at a very slight angle to the S. W. and exposing a thickness of about 150 feet. In the lowest beds of marl are bands of white marl, indurated and very calcareous, and one or two beds of very hard concrerionary limestone, mottled with red and white. The cliff again ends, and a low bank of sand and boulders extends for about 200 yards, when suddenly some black and brown shale is found resting on two beds of light brown or whitish limestone, siliceous, and containing small tubular concretions and strings of spar, and agreeing in every respect with the thin beds of limestone in Chapel Cove, Holyrood, at the head of Conception Bay. The two beds of limestone are separated by a thin parting of shale; they are each about five feet thick; and the whole mass of shale and limestone dips at an angle of 75° to the S. S. E. The beds of limestone forms a ridge running across the Beach and keeping the same dip and strike some distance into the water Unfortunately the section here is again interrupted by a hollow filled with sand and boulders, immediately beyond which is a cliff of red sandstone and conglomerate, dipping in the same direction with the red marls and sandstones before mentioned, and exposing a thickness of about 40 feet. This last mass of conglomerate is rather soft, full of large quartz pebbles imbedded in fine red sand, and marked by regular lines of stratification. The remainder of the peninsula is a low beach running up to the mainland, the cliffs of which are there composed of the same serpentine rock, associated with quartz, which was mentioned before.—In my present ignorance of the surrounding country, I forbear to speculate on the presence of these red marls and sandstones; I was, however, struck with their resemblance to those which, on the W. side of the Island, form the lower parts of the coals formation. At the same time, the whole section is rather remarkable for its mystery than its capability of giving information. At the head of the harbour of Little St. Lawrence, the green & grey schistose rocks mentioned as forming the coast, are greatly twisted and contorted; and immediately beyond, the country is entirely composed of igneous rock. This igneous rock is a dull red; it is composed of a base of red compact feldspar, in which are disseminated crystals of the same mineral; it is then a feldspar porphyry; frequently, however, crystals of quartz occur, and the whole mass becomes granular and crystalline, and contains hornblende and other minerals, when it is called sienite. It forms a low tract of coast, rising into craggy hills in the interior, and extends from the harbour of St. Lawrence to Point May. At great St. Lawrence a small vein was found in this rock in which were small crystals of fluate of line, with one or two of galena, or sulphate of lead, and a few fragments, of green carbonate of copper. The vein, however, was only a few inches in width, and disappeared in the course of two or three yards without any sign of leading to anything of more importance. This rock forms the entire Island of St. Pierre. Langley, however, is composed of the variegated slate rocks. The Island is apparently traversed by an anticlinal line running N. E. and S. W. through Cape Percee, the rocks dipping on one side of it S. E. and the other N. W. (See section No. 14) In this Island the variegated slate apparently graduates down into rocks similar to the Trinity Bay sandstones—brown and purple grits shewing themselves about Cape Percee.

The external characters of the tract now described are of course as various as the rocks which compose it.—The fertility of the variegated slate rocks is every where apparent. The Island of Langley supplies St. Pierre with meat, butter, milk and eggs. The tract between Placentia and Cape St Mary's is (as I was informed) occupied by six hundred head of cattle, and thus evidently only requires a commodious communication with St John's to become a flourishing agricultural district; which character, I have little doubt, may be extended to the Western shore of St. Mary's Bay. This formation everywhere forms rather low and level ground; but that its fertility is not due to that circumstance alone, may be proved by contrasting it with the low shore around Laun and Lameline, composed of the red sienite and porphyry, where scarcely a stunted bush can be seen for miles, and the whole country is a low barren waste of rocks, thinly covered with brown moss. From Cape Chapeau Rouge along the Northern shore of Placentia Bay, the country appears very rugged and broken; and N. and E. of Placentie are some very considerable hills, but of what composed I am as yet unable to state.

5.—Owing to the same cause mentioned before, I was unable to visit any part of Fortune Bay; and I therefore now pass to the district between Cape La Hume and Cape Ray. This tract is altogether composed of either igneous rocks or the very oldest of the stratified rocks. Though I did not land on any point between Cape La Hune and the Burgeo Islands, yet from the contour of the coast and the description I was enabled to get, I can safely assert it to be composed chiefly, it not entirely, of granite. About the Burgeo Islands granite is the sole rock with the exception of some patches of mica slate and gneiss on one of the headlands Three varieties of granite were observed; one white, rather fine grained, with abundance of mica; another of a coarse grain, with less mica and a redish colour; and the third, which is by far the most abundant, a coarsish red granite, with large embedded crystals of flesh-coloured feldspar. These rocks occupy the whole coast, and a wide tract of the interior between Burgeo and La Poile Bay. Both the E. and W. points of La Poile are composed of the porphyritic granite mentioned above, or that which contains the large crystals of feldspar.—On the E. side of the Bay this granite is soon replaced by porphyritic greenstone, which runs up to Galley-boy Harbour.—On the W. side of the Bay, however, the granite runs as far up as Tooth Head, where it partly overlies and sends large veins into a mass of dark blue and purple schistose rock with a green stripe. The changes which take place at the junction of these two rocks, in their respective characters are instructive. At about ten yards from this junction the imbedded crystals of feldspar in the granite become smaller, and soon cease to be conspicuous the rock is then principally composed of crystals of quartz and hornblende, and that portion which forms the veins shortly loses hornblende, the quartz from crystaline becomes compact, and the veins at a short distance from the granite are entirely composed of compact quartz rock on the one hand, while their gradation into granite on the other, is well and clearly exhibited. The granite itself becoming more and more largely granular and crystalline as we advance into its mass, (see Section No. 15.) This schistose rock at its junction with the granite is hard, brittle and travesed by strings of quartz; as we recede from that rock, however, it passes into a compact flagstone, in thin beds of a fine grain, hard but tough, of a light green colour, occasionally having a slaty cleavage when it resembles the St. John's slate. Its generally dip is about South, at an angle of 80°. About one mile above Tooth Head, in a large cliff of regular flagstone, without slaty cleavage, two granite veins are seen four or five feet across, whitish, consisting of crystalline quartz, feldspar and hornblende, and producing no apparent alternation in the neighbouring rocks. On the E. side of the Bay opposite this is a mass of dark siliceous schist, with brown ferruginous stains, which his succeeded towards the South by quartz rock and chloritic schist, continuing to the greenstones porphyry mentioned before. I was informed that slaty rocks were traceable for several miles into the country beyond the head of La Poile Bay. Between La Poile and La Moine the rocks are all granite, principally red, and some of it of a rather fine grain. From La Moine to the Dead Islands, and thence to Port aus Basques and Cape Ray, mica slate and gneiss compose the entire country. About the Dead Islands, abundance of veins exist in the gneiss, some of which are thirty yards wide, and are composed of large crystals of quartz and feldspar containing as it were nests of mica and hornblende, thus constituting a very largely crystalline granite. These veins always run with the strike of the beds, and their sides present no well-marked line of division between the crystalline rock and the schistose mica slate and gneiss, one passing into the other by fine gradation. Some well-marked distinct granitic veins, however, were observed, which not only ran in the strike of the beds but crossed them and enclosed masses of the mica slate. No large mass of granite appeared in the neighbourhood of these veins, but such might exist a little way in the interior. The mica slate and gneiss do not occupy distant tracts, but beds of each alternate with the other, and some beds partook of the character of both.—The strike of these rocks is everywhere pretty uniform about the Dead Islands and Port aus Basques, being about E. N. E.; their dip, however, is Northerly at the Dead Islands, and Southerly at Port aus Basques. At the latter place, beds of a very peculiar character were interstratified with the gneiss and mica slate. They were not more than a foot or two thick, black heavy and crystalline with a fine grain, resembling basalt very much in appearance. Garnets occur sparingly scattered about the mica slate, but I observed none of any magnitude These gneiss and mica slate rocks continue from Port aus Basques round Cape Ray, for some distance towards Little Codroy river, where they terminate.

The external characters of the district now under consideration have a great uniformity. The same barren desolate appearance of hopeless sterility is everywhere visible. The interior consists of a broken country, of small hummocky hills, traversed in every direction by narrow vallies; the tops of the hills are bare rock, and their sides scantily covered with moss, while a few stunted trees miserably congregated in some more sheltered spot, serve but to render more apparent the nakedness they are not sufficient to conceal. Few parts of the country rise into hills high enough to give features to the scene—the general level of the land sloping gradually from the interior towards the sea; as moreover, the rocks continue to have beneath the water the same broken and uneven surface they had above, the coast is lined with a perfect fringe of islands, islets, and rocks above and under water, the smallness and number of which render it impossible to lay them down on charts except of very large dimensions. To those well acquainted with this coast it offers an abundance of safe and commodious Harbour; to others it is full of dangers they can neither avoid or foresee. Under no possible circumstance, can it give to its inhabitants more than shelter and fresh water.

6.—We come now to the description of the large, important and interesting district between Cape Ray and the Bay of Islands, which I regret that the time at my command did not permit me to examine more in detail. I considered it my duty, however, in the first instance, to acquire materials for a slight outline of the structure of as large a space of country as possible, leaving the detail of the particular districts that were worth the labor, to be filled in at a future period. In describing this portion of the country, I shall depart a little from the plan hitherto pursued, and give first a slight sketch of its physical Geography, which is as yet little known. From Cape Ray a chain of hills runs into the country in a N. E. direction, having an average height of about 800 feet above the level of the sea. They are of the most part flat-topped, but end in three conical peaks towards Cape Ray, and become very much broken at the distance of 15 or 20 miles into the country. This chain of hills is apparently continued towards the head of St. George's Bay, at a distance of about 20 miles from the sea shore, but gradually trending towards the N., they run round the head of the Bay, and thence towards the Bay of Islands. The tract on the S. side of St. George's Bay, between these hills and the sea, is generally of a low average level, tho' having an agreeably undulated surface; about Cape Anguille, however, it rises to a height of 4 or 500 feet above the level of the sea. On the N. side of the Bay another tract of comparatively low grovnd exists to the W. of the range of hills; namely, the country around Port au Port, much of which is not greatly above the level of the sea; and that part which does attain a height of 3 or 400 feet is table land. The hills about the head of St. George's Bay, though rarely exceeding 1000 feet in height, are of a mountainous character, rugged and precipitous; and this continues to be the nature of rather a wide band of country that runs from the E. of St. Geo's Bay across the Humber river, at the head of the Bay of Islands, and thence for a bonsiderable distance still farther N. About St. George's Bay this ridge of hills forms the water shed of the country; the brooks on one side running down into the Bay—those on the other emptying themselves into the Grand Pond, a large lake into the interior. This lake commences at about 15 miles in a straight line N. E. from the extreme point of St. George's Bay. In the first 7 miles the lake spreads out to a width of about 2 miles, and runs about E. S. E.; at this point, however, it bends round, divides into 2 branches, each from half a mile to a mile wide, which enclose an Island about 21 miles long and 5 across in the broadest part. In this part of its course the direction of the lake is E. N. E. The remainder of the lake, which is about 25 miles long and 4 or 5 across, gradually trends round to the N. E. and N. E. b. N. The whole length of the lake is about 54 miles. At its S. W. extremity it is enclosed by lofty hills with precipitous banks and is of great depth, no bottom having been found with 3 fishing lines, or about 90 fathom. Its depth is further proved by the fact, of the truth of which my Indian guide assured me, that its S. W. half is never frozen over in the hardest winters. Towards its N. E. end it gradually becomes shallow, and the hills slope down into a flat country which extends as far as the eye can reach towards the N. and N. E. The lake receives on all sides many brooks, and at its N. E. extremity a very considerable river, 50 yards wide and several feet deep, comes in, which is called the Main Brook. Three miles W. of the mouth of this river, an equally considerable one runs out of the pond; this latter is full of rapids for 5 or 6 miles, when it is joined by another river of about the same size, which flows from the N. W. These united rivers run towards the S. W. and in about 6 miles enter Deer Pond, a lake about 15 miles long and 3 or 4 across, running in a direction about N. E. and S. W. The S. W. end of this lake is agin encircled by the hill, through which the united waters force their way by a narrow and precipitous valley, forming the River Humber, and running out into the Bay of Islands. The part of the river between Deer Pond and the sea is about 12 miles, long, from about 50 to 100 yards across, and several feet deep; its navigation is, however, impeded by two rapids, one about 3 miles from its mouth and 3 quarters, of a mile long, and another shorter but steeper and more dangerous about half a mile below Deer Pond. The river which above Deer Pond comes in from the North and joins that running out of the Grand Pond, is likewise encumbered with rapids, our progress up each branch being stopped half a mile from their junction by rapids utterly impracticable with our boat. I afterwards interrogated the Indians respecting the course of the river in those parts into which I was not able to penetrate myself, and they informed me that the North branch which I shall call the Humble, rises in the country near Cow head, passes down to the E. through several lakes, two of which are 8 or 10 miles long, and gradually bends round to the S. or S. W., to the spot I have before described. The main brook, which runs into the N. E. end of the Grand Pond, is navigable for a canoe for a distance of some miles above the place where I turned back. It is there found to run out of a lake 8 miles long; on the other side of the lake the river is again met with, and passing up it 3 more lakes are crossed, each above 6 miles long. The extremtty of the last of these is about 18 miles from Hall's Bay, a branch of the Bay of Notre Dame; and crossing half a mile of land another brook is met with, down which a canoe can proceed to the waters of that Bay. It thus appears that the country drained by the Humber is upwards of 100 miles from N. to S., and 50 or 60 from E. to W., by far the most extensive system of drainage in the Island; it approaches the sea on 3 points, namely, Cow head, Hall's Bay, and St. George's Bay, and the united waters force their way out at a point nearly equidistant from each, having either formed for themselves or taken advantage of the narrow pass between Deer Pond and the South branch of the Bay of Islands, called Humber Sound. The Indians likewise informed me that if they proceeded from the East side of the Grand Pond opposite the East end of the Island, a days journey to the East brought them