PARISH OF SANDWICK.

PRESBYTERY OF CAIRSTON, SYNOD OF ORKNEY.

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I.—Topography and Natural History.

Name.—The name Sandwick is no doubt derived from the sandy bay, which is the principal one on the west coast between Stromness and Birsay, *wick* signifying a bay.

Extent and Boundaries.—The extreme length of the parish is fully 6 miles: but various calculations and measurements convince me that its mean length is about 4½ miles, and its mean breadth about 3¾. It is bounded by Birsay on the north; by Harray and the loch of Stenness on the east; by the same loch and Stromness on the south; and by the Atlantic on the west.

Hills, &c.—This parish cannot be denominated mountainous, nor even hilly, when compared with the neighbouring ones, being more flat and cultivated than any of them; but a range of hills forms its west boundary except at the bay; and from these the

hills of Gyran and Lingafiold* stretch eastward near its south side, and those of Vestrafiold and Yonbell at its north boundary. These, as well as the lower lands and valleys remote from the sea, slope gently eastward towards the loch of Stenness, forming part of that extensive amphitheatre in the centre of the west mainland, the area of which is little elevated above the loch. Vestrafiold, or the west hill, is the highest, and may be about 300 or 400 feet above the level of the sea. A little east of the Sandy bay are eminences or low sandy hills, called Sandfiold and Kierfiold, which seem to be formed in a great measure of the sand blown from the bay by the west wind, which is prevalent and violent. The latter of these hills was formerly considered beautiful for its verdure, as it was covered with grass to the summit, but for some years it has been forced to submit to the plough, and I suppose it is more profitable, though less pleasing to the eye than formerly.

Coast, Caves, &c.—The west coast extends about four miles and a half, and is precipitous at all places except the bay, the highest part being between 200 and 300 feet perpendicular. There are many caves on the coast that form the favourite retreat of pigeons. The softer portions of rock being washed away much more quickly than the harder, there are many deep indentations, or "geoes," as they are called, where the soft parts have given way, and in some cases the hard portions still remain as insulated pillars, within a stone throw of the precipice, forming very picturesque objects; but the most remarkable thing produced in this manner is the Hole of Row, which is a high natural arch through the peninsular crag forming the south side of the bay, caused by two whin dikes, occurring so near each other, that the intervening strata have been pulverised and washed out by the sea, as high as its waves had power to do so. Immediately south of the arch, the stones on the top of the precipice are arranged like those on a beach by the force of the waves, and, on the top of one of these crags, I once picked up a lump of India-rubber covered with barnacles. Not far from Row, on the nearest part of the coast, is an immense rock, which is well known to have been carried a considerable distance by the sea; it is 16 feet long, 6 broad, and 3 thick, and weighs, according to my calculation, about 24 tons.

Meteorology.—I have kept a register of the weather for the last twelve years; the latter half only in this parish, and the former

* *Fiold* means hill.

in the manse of Stromness, where there is no great difference in the climate. As the temperature and pressure of the atmosphere, the direction and force of the wind, with the state of the weather, were noted twice a-day, at ten A. M. and ten P. M., during all that period; it would occupy too much space to insert the whole of that register here; but the following tables, showing the mean state of the barometer and thermometer for each month and year, may be interesting, as applicable to Orkney in general, and must be pretty accurate, being formed from extensive data.

TABLE showing the mean monthly and annual height of the barometer, from 1827 till 1838, inclusive; the line below showing the mean of each month during that time, and the mean of the years. The manse of Sandwick is about 100 feet above the level of the sea.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An.
1827,	29.269	29.767	29.945	29.222	29.156	29.837	29.396	29.688	29.503	29.269	29.305	29.010	29.822
1828,	29.285	29.290	29.141	29.567	29.447	29.272	29.205	29.948	29.457	29.398	29.322	29.219	29.828
1829,	29.955	29.682	29.893	29.386	29.993	29.974	29.582	29.849	29.640	29.859	29.934	30.112	29.817
1830,	30.099	29.708	29.780	29.623	29.894	29.843	29.820	29.826	29.604	30.072	29.614	29.694	29.798
1831,	29.986	29.715	29.752	29.858	30.088	29.930	29.946	29.916	29.883	29.602	29.694	29.604	29.822
1832,	29.846	29.920	29.690	30.074	30.010	29.998	30.067	29.860	29.969	29.815	29.698	29.596	29.868
1833,	30.128	29.298	29.910	29.860	29.912	29.694	29.870	29.767	29.799	29.601	29.506	29.283	29.712
1834,	29.370	29.478	29.604	30.096	29.835	29.760	28.924	28.736	29.924	29.712	29.744	29.989	29.697
1835,	29.759	29.278	29.664	29.899	29.761	29.996	29.851	29.743	29.524	29.626	29.788	30.027	29.742
1836,	29.598	29.654	29.682	29.490	30.296	29.674	29.672	29.769	29.690	29.520	29.321	29.304	29.634
1837,	29.637	29.530	29.880	29.776	29.838	29.853	29.815	29.835	29.761	29.638	29.428	29.708	29.728
1838,	29.446	29.293	29.284	29.171	29.294	29.186	29.189	29.140	29.272	29.282	29.004	29.124	29.228
Month.	29.939	29.551	29.618	29.668	29.789	29.700	29.690	29.622	29.666	29.615	29.524	29.550	29.640

TABLE showing the mean monthly and annual temperature, from 1827 till 1838, inclusive, with the mean temperature of all these twelve years, which may be considered the mean temperature of our climate.

	Jan.	Feb.	Mar.	April.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An.
1827,	35.09	35.09	38.59	43.83	49.16	53.40	55.61	55.04	54.33	50.95	43.11	43.24	46.45
1828,	40.22	39 82	41.45	43.60	45.80	56.04	58.25	57.26	55 41	54.19	45 53	43.24	48.27
1829,	36.14	39.46	40 69	41.51	49.99	53.43	57.12	54.36	50.21	45.56	41.40	39.51	45.78
1830,	37 96	36.71	41.83	44.80	50.77	51.66	56.14	53.14	53.46	49.41	42.76	36.33	46 24
1831,	36.70	37.71	42 65	44.88	48.70	56.13	57.86	58.90	54.73	51.73	40.50	44.07	47.88
1832,	41.49	42 22	42.22	46.24	47.31	54.73	54 25	56.07	52.61	49.38	45.43	41.40	47.77
1833,	37.14	38.37	38.68	43.23	51.43	51.60	54.73	52.40	52.34	49.20	41 58	39.28	45.83
1834,	38 90	40.21	41.11	43.05	48 75	58.02	58.03	56.89	52.90	48.07	44.01	45.17	47.92
1835,	39.75	39.48	41.20	42.25	46.01	51.76	53.57	54.77	53.01	45.70	45.68	40.44	46.13
1836,	39.14	37.46	39.61	41.39	47.77	52.03	52 51	51.83	48.35	45.91	40.93	38.57	44.62
1837,	38.82	39.32	36.54	39.13	45.24	51.06	50.56	53.75	51.58	49.36	41.59	42.44	44.94
1838,	33.56	31.31	38.64	39.23	44.75	48.20	58.86	52.28	50.28	45.77	39.71	41.78	43.28
Month.	37.90	38.01	40.26	42.76	47.93	53.17	55.20	54.72	52.43	48.76	42.68	41.28	46.25

Of meteors, the polar lights are the most remarkable here, being often extremely brilliant and beautiful.

The west or south-west wind is understood to be the strongest, and the stone and lime on that side of a house most exposed to it, are generally the first to give way. A gale from that quarter is frequently prognosticated by the great swell of the sea, which rages even during a perfect calm. On this subject, I take the liberty of repeating an observation, which I have made elsewhere.* "This great swell, or 'sea,' as it is here called, generally indicates a storm in a distant part of the ocean, which may reach Orkney a day or two afterwards; hence, on the west coast, this great swell is considered a prognostic of west wind. From this we infer, 1*st*, that the agitation caused by the wind on the surface of the ocean travels faster than the wind itself; and, 2*d*, that the breeze begins to windward, and takes some time to reach the point towards which it proceeds to leeward, which tends to overturn the usually received theory as to the cause of winds. Sometimes, however, the distant storm which causes this agitation does not reach these islands at all." In proof of this, I may mention, that, in August 1831, from the 9th to the 13th inclusive, the great swell of the sea is remarked in my register, every day being also marked calm, with the barometer high and steady. Afterwards, however, I learnt that on the 7th and 8th of that month, there was a gale in latitude 57° 21′ north, longitude 13° 15′ west, which damaged a vessel that put back to Stromness to repair; and on the 11th it began at Bar-

* Guide to the Highlands and Islands of Scotland, p. 629.

badoes, and devastated that and other West India islands; but the gale never reached Orkney, though its effects on the sea were so conspicuous.

Climate.—Our insular situation prevents the extremes of temperature that are felt in continents of such a high latitude, the surrounding ocean tempering the heat of summer, and the cold of winter; so that for more than twelve years, the thermometer has only once fallen so low as 18° of Fahrenheit, and the snow does not lie so long here, as in the more inland parts of the south of Scotland, or, I believe, the north of England. Indeed, the mean temperature of every month was above the freezing point, except that of February 1838. Our mean annual temperature is 46° 25′, and the mean height of the barometer 29.640, as will be seen from the annexed tables; but the nature of our climate will be more correctly understood by comparing the mean temperature of each month, as there stated, with that of other places. The highest hill commands an extensive view, not only of the west mainland, but of part of the north and south isles, and from it, and other elevated grounds, may be seen the hills of Hoy, terminating in stupendous precipices; and, in calm and clear weather, those of Sutherland in the distance, stretching out towards Cape Wrath, add much to the beauty of the scene; but during a storm from the west it is awfully grand. The huge accumulations of water that then roll after each other, foaming with terrible violence to the shore, impress the mind with their irresistible power, and might well give a stranger a feeling of insecurity; and, when they dash themselves against the precipice, it seems half sunk, for a time, like a wrecked vessel amid the waves; sheets of spray are thrown far up into the air, and carried over all the country, making springs a mile from the coast brackish, for some days, and encrusting every thing with salt, even fifteen or twenty miles off. I am told by those living a few hundred yards from the spot, that the floors of their cottages are shaken by the violence with which the waves strike the crags; and I have seen innumerable sea insects alive on their summits, and even a limpet adhering to them after such a storm; also numerous fragments of the slaty stone, some of them a foot long, which had been whirled into the air, and had penetrated six inches into the soil in falling.

Our climate, in short, is more remarkable for dampness and storms, than for cold; the atmosphere being often loaded with sea spray in winter, and moistened with the constant evaporation in summer. Pulmonary and rheumatic complaints seem to be pre-

valent, owing to this peculiarity of the climate, and our sudden and frequent changes of weather. Some cases of cramp may also be ascribed to the dampness; and a neighbouring clergyman, who is afflicted with loss of voice, has, more than once, been immediately cured by the air of Edinburgh. Dyspeptic complaints are very common among the peasantry, but they are probably caused by poor diet.

Hydrography.—The Atlantic flows up into the bay on the west side, for about half a mile, and the Loch of Stenness, about a mile on the east, leaving little more than two miles at one place, between these two great waters. The Loch of Skaill or Aith, which is nearly a mile long, and half that breadth, lies nearly in this space; and the Loch of Clumly, which is more than half of these dimensions, is a little south of that line. These lochs are of no great depth or importance, and contain no fish except eels; but the two latter turn mills, on their passage to the sea and Loch of Stenness, and they relieve the tameness of the scenery,—their surface, when smooth as a mirror, forming a striking contrast to the troubled ocean hard by; and the sunset in fine summer evenings is most splendid, as seen from the manse, when the rays are reflected from the sea, and also from one of the lochs.

Geology and Mineralogy.—Having been requested by neighbouring clergymen to include their parishes in the description of the natural history of my own, some branches of it will be found more general in their application to other parishes, than would otherwise have been necessary or proper. This is particularly the case with the following remarks on geology.

The rocks of this parish and the adjoining district, I shall describe under the four following heads, viz. I. Granite; II. Slates or flagstones; III. Sandstone; IV. Trap rocks.*

I. *Granite.*—The district where this rock occurs has been lately ascertained to be much more extensive than it was formerly thought to be; for I have traced it, in company with the Messrs Anderson of Inverness, from Graemsay to this parish. The town of Stromness occupies the southern end of this tract, which is about one mile broad, and extends from the Island of Graemsay, which is the southern boundary, in a northerly direction, for about six miles, till it passes out at a precipice in this parish, on the west coast, where the Atlantic washes its base, and veils it from the eye of the geologist. The sound which separates

* Professor Jameson, in his "Mineralogy of the Scottish Isles," gave the first sketch of the geology of the Orkney Islands.

Graemsay from the mainland, and is less than a mile broad, interrupts the examination of this rock; but there can be no doubt of its being continued under water. In some places, it has no appearance of a slaty structure; in others, it has so distinctly, though not regularly stratified, and is properly gneiss; and at one place, discovered by Professor Jameson, it passes into mica slate, containing garnets. Hornblende rock is also found in this tract, but there is no extensive exposure of it. In general, it consists of a grey granite or gneiss, which is traversed by veins of quartz or felspar, but more frequently the latter, and exhibits the usual phenomena of such a district, in the interruption and shifting of the veins. A few years ago, L. 300 were laid out in quarrying some of this gneiss, and cutting it into paving-stones for the London market, but it did not succeed. In one place, the workmen came in contact with a rock containing a little galena and pyrites, but, with this trifling exception, it contains no ores nor useful minerals. Between this rock and the schist, there is a belt of conglomerate, at such places as are exposed, of 50 or 100 yards broad, containing pieces of gneiss, quartz, and felspar, imbedded, from a microscopic size to that of a turnip. This belt contains nothing worth remarking, except small veins of galena at one place, which are of no value. It gradually loses the conglomerated structure; and the succeeding strata, though they sometimes alternate, generally assume more of the character of those that rest on them, till at last they pass into

II. *Sandstone Flag, or Secondary Slate or Schist.*—This rests upon the conglomerate, and dips from it wherever I have been able to find it in contact. The best exposures on the west side of the granite are on the north shore of Graemsay, point of Ness, in Stromness, and south-west coast of this parish, where the strata slope west. On the east side of the granite, it is only the strata in immediate contact with it that dip east; for, in the course of 100 yards, they gradually dip more in conformity with the general dip of the country; but they may be seen dipping east on the shore of Graemsay, and at the point of Garson, in Stromness; and again they dip north-east, at the Burn of Cairston, and at the north-east boundary of the granite in this parish.

Of this slate, almost all the Orkney Islands are composed, or at least most of the low land and shelving shores, while many of the surrounding hills and precipices are formed of the superimposed sandstone. It forms a great part of Stromness, and almost all Sandwick and Birsay. It can hardly be described as one rock, as it is

in fact a succession of argillaceous, siliceous and calcareous slates or schists of different thickness, hardness, colour, and composition; but the most common, and that which is most esteemed for building, is when recently quarried, of a dark blue colour, like a hard slate clay, and breaks at determinate angles, diamond-shaped, thus giving the builders easy work; and some quarries afford excellent paving stones of four or five feet square, perfectly smooth.* By exposure, however, they acquire a rusty reddish or yellowish colour, from the decomposition of the iron with which most of these rocks are impregnated. These strata may be found at all inclinations, from horizontal to perpendicular, but in general they dip to the west, at an angle about 20°. They are generally in thin strata, and in one place are quarried pretty extensively for roofing slate, which is not good enough to export. In part of this quarry the slates are beautifully marked by dendritic iron pyrites. The texture is apparently homogeneous, but when exposed long to the action of the weather the softer parts are worn away, and the harder portions project much, thus demonstrating its compound nature. This is particularly the case along several of the precipices that bound the west coast, where the effect of the weather is increased by the exposed situation, sea-spray, &c. and forms the figured stones which have been considered so curious by many; and indeed the forms that they assume are sometimes exceedingly fantastic, being in the shape of concentric circles, ovals, squares, or triangles, according to the original mixture of the stones in the different strata, but most frequently the figures are spread irregularly on the surface like hieroglyphics. In some places they alternate with strata of a hard, dark *limestone*, which is nearly the colour of the strata between which it lies, and is burnt for lime, but not extensively, as the distance we have to bring our coals renders it expensive. In other places, the strata have a bituminous appearance on the surface, or little cavities which are filled up with a soft bitumen or petroleum, occasionally glance coal? This has excited some hope of discovering coal in this county, which would be an incalculable benefit to all the north of Scotland; but the whole county is so intersected by the sea, and there are such plain and beautiful exposures of all the strata along our shores, that it is hardly possi-

* The resemblance of these and the Caithness slates to some of the so-called greywacke slates of the south of England was remarked many years ago by Professor Jameson. He was in the practice, in his lectures, of pointing out the close resemblance or identity of these slates and red sandstones with the slates and sandstones in the Pentland range at Edinburgh, which lie immediately below the coal formation, and which he held to be members of the old red sandstone,—a formation belonging either to the undermost group of the secondary class or the uppermost of the transition class.

ble for coal to be present in any quantity, without its croppings or outgoings being perceived somewhere.

Fossil fish and vegetables occur in several places, even among the strata within half a-mile of the granite. All the species of these ichthyolites are far from being completely collected and known yet; but it is believed that they prove these strata to be identical with the slates of Caithness, and of the southern shores of the Moray Frith. Flinty slate and chert, passing into lydian stone, abound in these slates. Sandstone, some hundred yards thick, lies in immediate contact with the conglomerate on the north end of the primitive district on the west coast of the parish. It has that diagonal arrangement of the layers called false stratification. It is much more hard and crystalline than the new red sandstone, of a dark grey or brown colour, and is the only good quarry for millstones in this county.

Veins of galena are not uncommon, and one near the manse of Stromness has been worked for about 100 yards, but long since forsaken, as a speculation which would not pay. It is here associated with common heavy spar, and a mineral is found in small quantity along side of it, composed of carbonate of strontia, and sulphate of barytes, which has been described by Professor Traill as an entirely new mineral, and named Stromnite, or Barystrontianite. The other minerals that this part of the formation contains are of no consequence, viz. quartz or rock crystal in veins, calcareous spar in veins. Iron and copper pyrites, the former, most commonly in veins or nodules and heavy spar, occur sometimes of considerable thickness.

III. *Sandstone.*—This rock lies upon the slates, and is by most geologists considered the old red sandstone. It occurs neither in this parish, Stromness, nor Birsay, to which my observations on the slates refer; but to understand the position of these rocks, it is necessary to trace them to Hoy, south of Stromness, where this sandstone rests on the slates. There it rises to the height of 1600 feet above the level of the sea, in the Ward Hill. It varies much in colour, but is generally gray, red, or brown; and is disposed in strata, which are often so soft that it is not much used for building. Government, however, employed it for erecting martello towers, which are fast crumbling away. This sandstone is easily decomposed by the action of the sea, and forms numerous caves and fantastic forms along the precipices where it occurs, of which the insulated rock, called the Old Man of Hoy, that is so conspicuous from Caithness, may be given as an instance. This singular rock

is formed of the same strata as the precipice from which it is disjoined; and as this is nearly 1000 feet perpendicular, it affords a magnificent exhibition of the strata. The top is red sandstone, and the base on which it rests amygdaloid. In this precipice, I found, about twenty years ago, a fine vein of manganese ore, from which beautiful specimens may be procured, and in the other side of the island, that species of iron ore called brown hematite, is found in such quantity, that it was at one time worked.

IV. *Trap Rocks.*—These occur as greenstone, basalt, porphyry, and amygdaloid. All the rocks formerly noticed are frequently intersected with whin dikes, from one to ten feet thick, which are sometimes shifted and contorted, but generally run directly west by compass, (the flag having a seam in that direction), till they disappear under the bed of the ocean. In the space of eight miles along the precipices on the west coast of Stromness and this parish, I have counted eighteen separate dikes of this kind, and, including Birsay, I have no doubt there are more than two dozen. The strata of the slate in contact with these dikes are generally contorted and pulverized, and easily washed away, leaving narrow inlets or "geoes." One of these, nine feet thick, cuts through the north-west extremity of the granite, and another bounds on its south-east side a mass of amygdaloid, containing zeolite, calcareous spar, green earth, &c. in Walls. The only place where I know of its overflowing the secondary rocks is one which I discovered about twelve years ago in the west side of Hoy, where there is a bed of it fully 100 feet thick, and, I believe, several miles in extent, in the middle of the sandstone. Near the same bed, on the sea shore of Rackwick, I also found a fine vein of fibrous gypsum, an inch and a-half thick. Porphyry also occurs; and Dr Hibbert observed an interesting spot of it near the granite in Cairston.

V. *Alluvial Rocks.*—The alluvial formation of Orkney is not particularly interesting; but we have plenty of clay, in most places abundance of peat, though there is little in Sandwick, and, in many districts, marl. Bog-iron ore is very common on some of our hills; and along our sandy bays, nature frequently erects a barrier of a sort of indurated sand, apparently formed by the mixture of siliceous particles with fragments of shells, which serve for cement. In our peat-mosses, roots of large trees are often dug up, and they have also been found in Sandwick Bay, where they are generally covered by the ocean. Hazel-nuts, deers' horns, &c. have likewise repeatedly been found imbedded in our peat,—and this makes it probable

that forests have formerly grown in these islands, where there is nothing now that deserves to be called a tree, except in gardens.

Soil.—The soil of Sandwick is of very different kinds in different places. Immediately east of the bay, it is nothing but sand, which blows about with the wind. In other places, there is a poor yellow clay, formed by the wasting of the clay flag; and our best soil is a rich black clayish loam. These are mixed together in infinite proportions; but there is no depth of mossy soil or gravel. The clays particularly rest on a retentive rocky subsoil, many parts of which would be much improved by draining.

Zoology.—The rarer species of animals only being wanted for the Statistical Account, I would not be justified in inserting a complete list, for which I must refer to Anderson's "Guide to the Highlands and Islands," where one will be found, embracing those of Mr Low, Drs Barry, Traill, Neill, and Mr Forbes, to which I have nothing important to add. I may, however, mention, that rabbits are very numerous in the sandy parts of this parish, and hares, which were only introduced into Orkney a few years ago, are now beginning to show themselves. Thousands of gulls, of different species, with scarfs and other sea birds, as well as common pigeons, build on the shelves of our precipices, and some hundreds of the pewit, or black-headed gull, on a little artificial holm in the Loch of Skaill. A few pairs of wild swans remain some months in winter in the Lochs of Stenness and Clumly. Wild geese visit us every spring, and several species of duck are found in all our lochs in considerable numbers. There are no trout or other fish of any importance in our lochs; but in the Loch of Stenness, trout, flounders, and various other species are got; and there is great variety in the Atlantic, on our west shores; however, it is only when the sea is smooth that boats can get out to fish. Lobsters are caught in the bay for the London market.

Botany.—The plants in this parish are not very different from those in the neighbouring ones, except Hoy, where there is a considerable number of alpine plants on the Ward Hill. The Scotch primrose *(Primula Scotica)*, and vernal squill *(Scilla verna)*, grow abundantly in this, and most parishes of the county, with some more plants that are rather rare in the south of Scotland. But, for a catalogue of these, I must refer the botanist to the works of Drs Barry and Neill, and my own contribution of 83 new species to the Orkney Flora in Anderson's "Guide," which would occupy too much space to republish here, as they contain altogether 545 species.

It is, however, in cryptogamous plants that the Flora of Orkney

is particularly rich; and we have the pleasure of adding several to the Flora of Scotland, besides the *Chara aspera*, new to that of Britain, Dr Pollexfen has paid particular attention to the sea-weeds; and the addition which I am now enabled to make to former lists of these, prove his diligence in collecting, and acuteness in discriminating,—for though I have also picked up a few of these when accidentally at the sea shore, yet, for the majority of them, I am indebted to him. Without deducting a few that might be subtracted from former lists, but, taking Barry's at 11, Neill's at 13, and mine at 44, there are still 65 new species to be added to the sea-weeds, making the Orkney algæ amount to 133 species, and its flora to 610; and yet much remains to be done, particularly in cryptogamous botany. It is deemed proper to publish the complete list of algæ, including the old and new, on account of the rarity of some, alterations in nomenclature, &c.

I. Algæ Inarticulatæ.

Sargassum vulgare
——— bacciferum
Halidrys siliquosa
Fucus vesiculosus
——— ceranoides
——— serratus
——— nodosus
——— canaliculatus
Himanthalia lorea
Lichina pygmæa
——— confinis
Alaria esculenta
Laminaria digitata
——— bulbosa
——— saccharina
——— phyllitis
——— fascia
Desmarestia ligulata
——— aculeata
Dichloria viridis
Sporochnus pedunculatus
——— rhizodes
Chordaria flagelliformis
Chorda filum
——— lomentaria
Asperococcus fistulosus
——— pusillus
Punctaria plantaginea
——— tenuissima
Striaria attenuata
Dictyosiphon fœniculaceus
Dictyota dichotoma
Furcellaria fastigiata
Polyides rotundus
Delesseria sanguinea
——— sinuosa
——— alata
——— hypoglossum
——— ruscifolia
Nitophyllum ocellatum
——— punctatum
Nitophyllum bonnemaisoni
——— laceratum
Rhodomenia bifida
——— laciniata
——— palmetta
——— palmata
——— reniformis
Plocamium coccineum
Odonthalia dentata
Rhodomela lycopodioides
——— subfusca
Bonnemaisonia asparagoides
Laurencia pinnatifida
——— dasyphylla
Chylocladia clavellosa
——— kaliformis
——— articulata
Gigartina purpurascens
——— confervoides
——— plicata
Chondrus mammillosus
——— crispus
——— membranifolius
——— Brodiaei
Phyllophora rubens
Sphærococcus coronopifolius
Gelidium corneum
Ptilota plumosa
Iridæa edulis
Dumontia filiformis
Catenella opuntia
Porphyra laciniata
——— vulgaris
——— linearis
Ulva latissima
——— lactuca
——— Linza
Enteromorpha intestinalis
——— compressa
——— erecta
——— clathrata
Bryopsis plumosa

II. Algæ Confervoideæ.

Cladostephus spongiosus
Sphacelaria chirrosa
——— olivacea
Ectocarpus littoralis
——— siliculosus
——— tomentosus
——— Mertensii
Polysiphonia urceolata
——— parasitica
——— nigrescens
——— fastigiata
——— elongata
——— byssoides
Dasya coccinea
——— Hutchinsiæ
Ceramium rubrum
——— ——— diaphanum
——— ciliatum
Griffithsia multifida
——— corallina
——— setacea
Callithamnion plumula
——— Turneri
——— ——— arbuscula
——— lanosum
——— roseum
——— pdyspermum
——— granulatum
——— thuyoides
——— corymbosum
——— pedicellatum
——— Rothii
Conferva tortuosa
——— implexa
——— melagonium
——— ærea
——— fucicola
——— glomerata
——— Hutchinsiæ
——— rupestris
——— refracta

Conferva centralis
Calothrix confervicola
III. Algæ Glotocladeæ.
Mesogloia Hudsoni
Mesogloia multifida
Gloiosiphonia capillaris
Trichocladia vermicularis
—— —— virescens
Batrachospermum moniliforme
Corynephora marina

There are no forests in this parish; but some trees have been planted within the last fifteen years, and the kinds that seem to succeed best are, the plane, ash, mountain-ash, elm, and willow.

II.—Civil History.

The only plans or surveys of this parish of any importance, in addition to those of the county in general, are those of the townships, in which the Crown holds property, made by Messrs Granger and Miller, and lodged in the sheriff-clerk's office.

Land-owners.—The property is divided into very small portions here, as in the neighbouring parishes. William Graham Watt, Esq. of Breckness, holds about a third, and resides on it, cultivating a considerable part. The Crown holds about a fifth; and the remainder is held by nearly seventy other proprietors, most of whom cultivate their own little farms.

Parochial Registers.—The date of the earliest entries in our parochial register, of births is 22d September 1728, and in that of marriages, 20th April 1727. They have for some years been kept and preserved with great care; but they do not appear to have been so formerly.

Antiquities.—In the former Statistical Account it is mentioned, that, "on the west coast of the parish of Sandwick, close by the sea shore, is to be seen the ruins of a large building, which yet bears the name of the Castle of Snusgar;" also that several tumuli had been opened, one by Sir Joseph Banks, containing three stone chests, each enclosing a human skeleton, in different positions, and bruised bones, teeth, hair, beads, &c.; and others containing smaller stone chests, enclosing urns, in which were found ashes, with fragments of bone, or ashes and fragments of bone without urns. To these antiquities, a residence of six years enables me to add the following.

In the township of Yeskenaby, not far from the boat *noust*,* are the ruins of a small church, with an enclosure about it like a churchyard; and in several other places, a kirk green or burying ground. Between the top of Lingafiold and the loch of Clumly, are the stones of Via, which are worthy of the antiquarian's notice, and which are supposed to be a *cromlech* or heathen altar. Indeed, the figure of that, with the head stone in the hundred and

* A place for boats.

fiftieth plate of the Encyclopædia Britannica, published in 1797, might pass for a representation of this monument before the displacing of its pillars.*

On the hill north of Quoyloo there is a standing stone, and also a curious collection of large and ancient stones, to which the name Haly Kirk is still applied; and a gentleman residing in that neighbourhood informs me, that he recollects one of these, now prostrate, supported by those that are still perpendicular, thus completing that resemblance to an altar, which its name seems to indicate. Not far from the same spot, about 200 yards north-east of North Dike, and about 500 east of the summit of Vestrafiold, are the remains of an enclosure, 800 yards in circumference, and, I believe, of great antiquity, many of the stones being large, and set upon edge, particularly five or six on the north side.

About sixty yards nearer the summit, is a quarry, with enormous blocks of stone detached, so similar to the standing stones of Stenness in size and shape, that I suppose this to be the bed from which they were taken, as I know of no other quarry from which they could be procured, and no other purpose for which people would detach such blocks as these, from 13 to 18 feet long. The nearest circle of the standing stones is about six miles from this spot; but, though they might be considered geographically in this parish, they are ecclesiastically within the boundaries of Stenness. I may, however, mention, that numerous remains of antiquity, probably connected with them, may be seen at the adjoining boundary of this parish, and more particularly about a mile north of them; and within the west corner of the dike of Wasbister is a circle, which seems a miniature of that in Stenness, without the stones, surrounded by a ditch about 12 feet broad, and 6 feet deep, 219 yards in circumference outside of the ditch.

There are in the parish at least five broughs, which their name and situation prove to have been, of old, places of defence. Two of these are on promontories at the precipice in Yeskenaby, one jutting out in the Loch of Clumly, and two in the Loch of Stenness; each of these, not an island, or surrounded by water,

* The slab of Via is 1 foot thick, 5 feet 10 long, and 4 feet 9 broad. The four pillars under it are each about 3 feet long; and the head stone 3 feet 9 by 2 feet 9 on the surface, and 1 foot 4 thick. It is placed nearly in the centre of an old circular enclosure, 275 paces in circumference, with a small tumulus on the south side of it, which was lately opened, but nothing found in it except a parcel of large stones.

being separated from the land by a ditch, which is still distinctly visible.

I have observed at several places vitrified cairns, similar to those in Sanday, &c. which Dr Hibbert supposes to have been produced by beacon fires. I know not that ours have the same origin; for since that celebrated antiquarian called my attention to the subject, I have, in several cases, seen similar vitrified matter produced by burning a whole stack of sandy peats in the open air, during a strong breeze, which is sometimes done to obtain the ashes for manure.

During last summer, a man, who built a habitation for himself on the common between this and Isbister, in Birsay, found what seems to have been a Pict's house, in a *knowe* from which he took the stones. It consisted of a chain of four circular cells, connected together by passages too narrow and low ever to have formed an abode for men.* It seems more probable that the rubbish above the cells was the ruins of their residence, and that these were used as cellars or places of security.

Barrows or tumuli are particularly numerous in Sandwick. I believe there are more than one hundred, though it would be neither easy nor useful to count them. Eight of these, situated on the common, have been opened during the last year. A minute description of each would be tedious; but a brief account of the most important, which I opened in company with most of the other office-bearers of the Orkney Natural History Society, must be interesting to the antiquarian. The first, which was the largest of a numerous cluster between Voy and Lyking, was 50 yards in circumference, and about 7½ feet high. It was formed of a wet adhesive clay. On reaching the centre, we found a large flag which formed the cover; and on raising it up, the grave appeared as free from injury, and the pieces of bone as white and clean, as if formed only the preceding day. At its end, which lay north-east by east, was an urn inverted, shaped like an inverted flower-pot; and at its other end, about a hat-full of bones, unmixed with ashes, which had been burnt and broken small, none being more than two inches long and one broad, covered by a stone of an irregular

* This building was unfortunately demolished before I heard of it; but the following dimensions, which I had from recollection, are probably pretty correct. Cells, 4 feet in diameter, and 4 feet high; passages, 2 feet wide, 2 feet long, and 3½ feet high; walls, 1 foot thick, or more, according to the size of stone, only built smooth inside, covered with large flags, the lowest across the passage, and the highest across the middle of the cell, with one between.

shape, about one foot across. It was sprinkled with a peculiar mossy-looking substance, of a brown colour, and white ashes, which seemed, from the smell when burnt, to be animal matter. The surface of the urn is dark, not unlike burnt cork, and seems to be rude earthen-ware, into the composition of which, bits of stone enter liberally. It contained nothing that we could perceive, and soon fell to pieces; but I put them together with Roman cement; and it is now in the Society's museum, with part of the bones.*

The next, in size, of the group of tumuli, was 34 yards in circumference, about 6 feet high, and contained six separate graves. The two nearest the centre seemed the principal ones. A large flag rested against the covers of these on the east side, jutting up about a foot above them.† The space under this flag was quite empty. On removing it and the two horizontal covers on which it rested, the two principal graves were exposed to view. The first was formed of a double row of upright flags, on all sides except the south, next to the second, where there was only a single row, and small pieces substituted at the corners,‡ the space inside was filled for 9 inches with clay, and the corners of this and the second were also cemented with it. Between the cover and clay flooring, was a vacant space, about a foot deep, into which some fine sand had penetrated or fallen from the cover in wasting, and sprinkled the floor. On removing this, we found a small stone, which covered a cavity in the clay, 1 foot in diameter, and 9 inches deep, containing the bones burnt and broken, as in the first tumulus, and some little pieces of charcoal. It is worthy of remark, that in a tumulus lately opened in Circassia, Mr Spencer discovered a few fragments of unglazed *terra cotta* vases, containing charcoal also.§

The second grave‖ was nearly one foot south of the former, and consisted of four flags, set up on a floor of flag, with a heap of

* The cover was 5 feet 7 in length, 3 feet 2 broad, and 3¼ inches thick. The bottom of the grave was on the level of the surface of the earth, and it measured 3 feet long, 2 feet broad, and 1 foot 10 deep. The part of the urn that bore to be lifted up measured 1 foot in diameter at its mouth, 5 inches inside and outside of bottom, and 9 inches high; the bottom 1 inch thick, and the sides barely ¼.

† It measured 5 feet long, 4 feet 2 inches broad, and 3 inches thick.

‡ The first grave was 1 foot 8 inches square inside, the outside flags were 6 inches higher than the inside ones, and those on the west and east sides very thick. Outside they were supported by some lumpy stones and the clay.

§ Spencer's Travels in Circassia, Vol. ii. p. 299, third edition.

‖ This was 1 foot 10 inches, by 1 foot 3 inches across the middle, but far from square, and 2 feet deep.

bones, similar to those in the first. The third was at the south side, close by the west corner of the second, and was very simple, being merely a cavity in the earth, covered by a stone on which we were treading, and being so low, without any upright flags about it, it escaped observation till we were about to leave the tumulus. It contained pieces of bone of a larger size than the former two, and a few pieces of a vitrified substance, like a parcel of peas, with a vesicular internal structure, and of a whitish appearance, as if it were vitrified bone. The other three resembled the more common graves that are generally found in the lesser tumuli, differing from each other in size and structure, but all more or less filled with ashes, of a reddish colour, apparently of peat, interspersed with very small bits of bone.*

All of these graves lay with one end north north-east, except the sixth, which was directed north-east. This resemblance between the fourth and first is worthy of notice,—that it also consisted of a double row of flags on all sides except the south, next to the fifth, where it was single.

I do not think that it would be either interesting or useful to describe minutely the graves in all the tumuli that I have seen opened during the last year, or heard of being opened previously; for though they vary a little in size, shape, and direction, there is a strong similarity between them, the largest being 2 feet 9 inches by 2 feet, and the smallest 1 foot 2 inches by 10½ inches; and the direction of those that I have had an opportunity of observing, varies only two points of the compass from north by east, to north-east by north, and they all contained peat ashes mixed with bits of bone. I leave it to those more competent to the task, to speculate on these facts. One thing, however, seems evident, that these tumuli are the burying-places of a people who burned their dead, and it seems probable that the rich were buried in the larger and more costly tumuli, and that their bodies were burnt in such a way as to prevent their remains from being mingled with peat ashes: and the bits of charcoal found in one of the graves seem to indicate that this was used as the fuel, at least on some occasions,

* The fourth grave lay on the east side of the first, with a space of three feet between; internally, it was 2 feet 10 inches long, by 2 feet 3 inches broad, the inner row 6 inches below the level of the outer; 9 inches below that, was a small covet-stone, and at the bottom, 6 inches of peat ashes, with bits of bone. The fifth lay two feet south of the last, and was about 3 feet 5 inches, by 2 feet 3 inches. It was formed by a single row of flags without any cover. On the top was 6 inches of clay, and below that, about 9 inches of ashes and bone. The sixth lay three feet from the north-west corner of the first, and was the rudest of all. It measured 2 feet by 1 foot 2 inches.

while the poor were interred in the smaller tumuli, along with the ashes of the peats, which consumed their remains.

An ancient and interesting grave was also found last year, on the farm of Downby, by the proprietor, from the plough accidentally coming in contact with its cover stone. It contained a human skeleton, which could not be got out entire, but which seemed to have been buried in a sitting posture, and at the right hand lay a mallet head of gneiss, finely marked with dark and light layers, and beautifully polished, now in the museum in Stromness. The head lay north-west by north.*

III.—Population.

The amount of the population at each census, taken at the four last periods, was 970, 922, 930, and 973, or, including 46 seamen, 1019; but when I took an account of my parishioners in 1833, visiting every cottage, I found it amounted to 1088, and, according to the present return for this Account, it is 1056.

The yearly average number of births for the last seven years is,	31⅞
deaths,	18
marriages,†	7⅜
The number of persons under 15 years of age,	413
between 15 and 30,	292
30 and 50,	245
50 and 70,	119
upwards of 70,	17
Number of proprietors of land of the yearly value of L.50 and upwards, including the Crown,	2
Number of unmarried men, bachelors, and widowers, upwards of 50 years of age,	20
Number of unmarried women upwards of 45,	36
Average number of children in each family having them,	4⅛

The number of insane, 2; fatuous, 5; blind, 2; deaf and dumb, 2; total 11.

The number of families with children, 164, without them, 38,‡ total, 202.

Gaelic has never been spoken here; and I know of no customs, games, or amusements, peculiar to this people.

If the work of cleanliness has begun, it is yet far from perfected. In their persons and dress, I believe there has been some improve-

* This grave was 4 feet 2½ inches, by 2 feet 11 inches, and 2 feet 9 inches deep, formed of flag only about an inch thick. The cover was 6½ feet long, 4 feet 2 inches broad, and 6½ inches thick. The mallet is 3 inches long, about 6 in circumference at the thickest end, and has a hole quite through, apparently for a handle, about seven-tenths of an inch in diameter.

† The marriages registered last seven years are 56, but 18 females and 4 males belonged to other parishes: deducting the latter, who would probably take their wives to their own homes with them, we obtain the above number.

‡ In many cases, there are females living in cots by themselves, which makes the number of families appear greater.

ment in this respect, but it must be very limited, till they have houses that are clean, in which it would be possible to keep their persons so. At present, most of them are wretched hovels, with holes in the roof instead of chimneys, which permit that part of the smoke to escape, that is knowing enough to find it; but most of the soot attaches itself to the roof and rafters, whence it descends again on the inmates.

Another hole in the roof, about six inches square, and often without glass, is the substitute for a window; and cows, calves, pigs, geese, and fowls, share the benefit of the peat fire, placed on the middle of the floor for the accommodation of all. Their food is as simple as can be imagined. Oat and bear-meal, with milk in various forms, potatoes, cabbage, and sometimes fish, is their ordinary diet; and most indulge in a little flesh and ale at Christmas, or other holidays. Of their poor cots, many are only tenants at will, and on this account, as well as others connected with their state of vassalage, though many have peace and plenty, I cannot say that all enjoy, in a reasonable degree, the comforts of society and civilization, as so much depends on their landlord.

The general character of the people, intellectual, moral, and religious, is, I believe, much like that of their neighbours, who have been placed in the same unfavourable circumstances, living in a parish united to another, with public worship only once a fortnight, and no resident clergyman. I have the gratification of noticing in the sequel their late improvement, in these respects.

IV.—Industry.

Agriculture.—Much of the information required under this branch of inquiry, I expected to have procured from the tenants; but it is proper to explain, that many of them having been prohibited from divulging the secret of their real rent, and quantity of land, I have been under the necessity of extracting the truth from other sources. More than half of this parish has lately been divided under a process of division of run-rig, and of this part, the number of acres of arable and pasture land, with the comparative value of each, has been exactly ascertained; and knowing the proportion between the valued rent of this part, and that which remains undivided, I am furnished with materials from which to calculate the number of acres of arable and pasture land in the whole parish, with more precision than formerly; and the knowledge of the real rent of a part, amounting to more than L. 600, gives me also materials for calculating the real rent of the whole,

which I believe to be nearly L. 1600, but which I shall at present calculate at L. 1500; and I have pleasure in acknowledging the politeness of Mr Graham, the Crown Chamberlain, and the surveyor, in procuring most of the documents. The valuation of the parish, more than twenty years ago, is far below the present value, some tenants paying more than double of the rent then stated.

No. of imperial acres cultivated, or occasionally in tillage,	2294
which never have been cultivated, and which remain constantly waste, or in pasture, is	3224
in a state of undivided common, or water,	5202
under planted wood, about	1

What portion of this might, with a profitable application of capital, be added to the cultivated land, is a matter on which there must be a great variety of opinions; but the practicability of doing so is yearly proved, by the cultivation of some part of it.

Rent of Land.—The average rent of arable land per acre is 10s., and the average rent of pasture land about 2s. per acre.

Rate of Wages.—The following is the rate of wages. A ploughman per year, L. 7, or more if he acts as grieve, with board, or equivalent in meal, &c.; a male day labourer gets 1s. and a female 6d. without fare; female servants in gentlemen's families have L. 3 a-year. For harvest, men get L. 1, 10s. and females L. 1. Masons may be got to build dikes at 1s. 3d. a-day, and 11d. a fathom for building and quarrying a dry stone dike, 3½ feet high, with coping. More perfect masons obtain 2s. a-day for the best kind of work; carpenters get 2s. a-day and food.

Prices.—The prices of different articles of raw produce, or country manufacture, are, fowls, 8d. each; eggs, 3d. per dozen; beef and mutton, about Martinmas, 2d. per lb., but dearer at other seasons; butter, 6d. per lb.; potatoes, the dearest, 3s. per barrel; an iron plough, L. 2; a wooden one, L. 1, 10s.; a cart, L. 4, 4s.; a pair of harrows, 14s. or 15s. The common breeds of cattle are the small ones of the county, and little attention has been paid to their improvement. The general character of the husbandry is still exceedingly defective, most of the ground having been alternately in oats and bear for generations, without the benefit of green crop, grass, or fallow, except a rig or two on each farm, for the potatoes. The soil is, in consequence, full of a great variety of weeds, and exhausted; and I deem it of the utmost importance, that a regular rotation of crops should be introduced, suiting the course and kind of crop, to the soil and climate; but

hitherto there has been a greater desire to increase the quantity of arable ground, by reclaiming waste land, than to increase the productive power of that which is already arable, by rotation and draining. In general there are no leases, and in the few cases where they exist, their duration is only about seven years, so that they afford no adequate encouragement for improvements by the tenants. The state of the farm-buildings is as bad as that of the dwelling-house which I mentioned before, and there are no inclosures among the peasantry, except those of their "kale yards."

The principal improvements which have recently been introduced among the tenants, are better horses, and implements of agriculture, and those in my neighbourhood are also trying turnips on a small scale.

The single-stilted plough, used here at the beginning of this century, is now completely abolished, with all its cumbrous machinery, and the common two-stilted mould-board one substituted in its place, and a pair of good small horses, instead of three or four with their leaders. Harrows with teeth of iron instead of wood, and carts are now universally used. The public road from Stromness is made as far as the Loch of Aith, and in tolerable repair.

Mr Watt is by far the most extensive farmer in the parish, and has for many years carried on an improved system of husbandry; enclosing and reclaiming waste land on a large scale,—his last inclosure off the common, a few years since, including about 100 acres. Mr Robertson in Lyking deserves next to be noticed with approbation, for his success in raising the best crops, and acting on an improved system. Mr Heddle of Clumly, who purchased that property about five years ago, has already inclosed the whole of it, and brought most of its waste land into cultivation.

The glebe has also, during the last four years, been inclosed and drained; and this is the only farm in the parish, or, in a much wider district, that is under a regular rotation of crops. The course adopted is that of six years, viz. green crop, bear, two years grass, and two years oats; but it would be premature to affirm that this is the rotation best adapted to the county, or most worthy of general imitation. This experiment, however, has shown that the crops are vastly improved by the rotation, and that the first years are attended with more expense than profit.

All the obstacles to improvement, noticed in the "heads of inquiry," operate here in their full force, viz. want of capital, the want of encouragement by proprietors, erroneous management of

land, defective leases, and insufficient accommodation in building and inclosing.

The only quarries are those of the common clay stone, which are found in most places fit for building, and in a few places adapted for paving and roofing; and the mill-stone quarry noticed under Geology.

We have no mines, and no fisheries of any importance, though when the sea is smooth, those near the bay catch some fish for their own use, and a few lobsters for the London market.

Produce.—The average gross amount of raw produce cannot be stated with precision, as the people could not tell it; but the principle on which valuators generally calculate, is, that the produce should be three times the value of the rent, which makes the total amount of the raw produce raised in this parish L.4500, and this is almost exclusively in grain, and a few potatoes for their own use. The only crop cultivated for the arts is rye, for making bonnets, nine acres of which are raised by Mr Watt, at what appears a liberal rent of L.6, 10s. per acre, but he has to manure and work the land, and furnish carts whenever they are required, for carrying the produce to the boiler, thence to the bleaching-field, and thence to Kirkwall, or Stromness.

Manufactures.—The principal branch of manufacture carried on here, is straw plaiting, which occupies almost all our younger females; or, in summer, reaping and preparing the nine acres of rye that furnish the materials. The seeds are sown thick, that the straw may be long and fine. The stems are cut down before the grain ripens, tied near the lower end into very small bundles, steeped in boiling water for an hour, spread on the ground to bleach, and carted to the manufacturer's house, where the upper part between the highest joint and the grain, which only in general is used, is pulled out; cut to a proper length, sifted or sorted to different degrees of fineness, and made up into small bundles, which are distributed to the girls who take them to their own houses to be plaited; they are paid according to the fineness of the straw, and excellence of the work. The plaiters can earn 6d. a day at the present rate of wages. The plaits are next washed, smoked, milled, and, lastly, put into the hands of other girls, who sew them together into bonnets. At one time, this manufacture was conducted in a very objectionable manner, by collecting numbers of young people in confined apartments, where, as "evil communications corrupt good manners," and "one sinner

destroyeth much good," it is to be feared the contaminated atmosphere was not only destructive to their bodily health, but to their moral purity. The same objections, however, do not apply to it as conducted at present in their own houses, where it has a tendency to introduce neatness and cleanliness; but it is a serious objection, that the whim of a London lady may render it unfashionable to appear under a thatch of straw, and thus at once throw destitute 3000 Orcadian damsels.

The manufacture of kelp is not of great importance here now, only about eight tons are made,—and it neither affords much employment nor profit.

V.—Parochial Economy.

There is no town or village in the parish, but the centre is only about five miles from Stromness, and about fifteen from Kirkwall.

Our letters pass through the Stromness post-office; and the length of made-road from the centre of this, to join that in Stromness parish, is two miles.

Ecclesiastical State.—The parish church is placed about 100 yards from the bay at the west side, and about five miles from the other extremity,—a situation which is most inconvenient for all the population, except the few in that neighbourhood, the nearest cottage being nearly a mile distant. As this church was built so lately as 1836, partly on the foundation of the former one—it is my duty to relieve the presbytery of the bounds, and the minister of the awful responsibility of approving of such a site: for after the principal heritors had petitioned the presbytery for a removal of the church to a central situation, and that court had cordially approved of a measure so eminently calculated to promote the glory of God, and salvation of souls, the opposition of the very person who had written, and been most prominent in promoting that petition, effectually defeated the arrangement.

From this it is evident that presbyteries should be vested with authority to fix on the proper sites for churches.

Though so recently built, I cannot say that its present state of repair is good, for being founded partly on the foundation of the old church, and partly on soft sand, the wall cracked so far, that the arch of a window came down, and that being rebuilt, it has again cracked in such a manner, that it gives little prospect of durability. It contains 564 sittings, which are not yet divided. The manse was built in 1833. The glebe consists of 43½ acres, nearly half of which used to be arable ground, and the rest poor pasture, or waste land, which was let altogether for about L. 12.

The stipend is the minimum of L. 150, with L. 8, 6s. 8d. for communion elements,—L. 6, 5s. 6d. of the stipend being paid from Exchequer.

There are two Dissenting chapels in the parish, one belonging to the United Secession church, and the other to the Independents. The former was erected in 1828, and the minister* is provided with a house, a piece of land, and fuel, and receives L. 76 of stipend, the whole of which is derived to him from the congregation; but, according to the usual practice of the Secession Church, so long as the congregation are unable, by their own efforts, to support the regular dispensation of religious ordinances, they annually receive pecuniary aid from the United Associate Synod, and also from the two neighbouring congregations of Kirkwall and Stromness. The number of communicants on the roll of that congregation is 105, but only 68 of them belong to this parish. The whole population attending the chapel, including members, their children, and others, is about 230, and if the above proportion holds good, about 150 of them belong to this parish. The Independent chapel was built about 1824, but is not occupied every Sabbath, as the preacher resides in Harray. I cannot state his income, and perhaps I should not, as he is not resident here, but what he derives from this parish must be extremely little. I am told there are seven members connected with this chapel, and not so many additional hearers, resident in Sandwick. Making these deductions from the population, there remain 900 belonging to the Established Church, where worship is generally well attended, considering its distance from the east extremity of the parish, for the people of that district are five miles from the church of their own parish, and only one from that of Harray, where, it is to be supposed, they will frequently attend. The average number of communicants for the last six years, counting those who used tokens, is 496, and counting the official persons also, who used none, I may state it to be about 500. We yearly take a collection in church for one of the General Assembly's schemes; but we cannot raise above L. 1 in this way; for though we sent above L. 7 to one of them, and above L. 3 to another during the last two years, the greater part of these sums was raised by subscription.

Education.—The total number of schools is nine; but some of these are kept only for a short period, by persons who happen to

* This gentleman has politely furnished the information concerning his own chapel, which is given, as far as consistent with the heads of inquiry, in his own words.

have leisure. One of these is the parochial school, and all the rest are unendowed. The branches of education taught at the best of these, are, Latin, French, grammar, writing, arithmetic, music, outlines of civil and natural history, geography, geometry, and a little astronomy; but several taught by females, are limited to reading and sewing. The salary of the parochial teacher is L. 34, 4s. 4½d., but both at this, and the other schools, the school fees do not amount to much. The parochial teacher has the legal accommodation. The expense of education per quarter at it, is 1s. for reading, with grammar, writing and arithmetic, and 6d. for each important branch in addition, but 9d. and even 6d. per quarter are the fees at some of the female schools. I believe all between six and fifteen years of age can read, and a great part of them write. I do not know of more than two or three old people who cannot read. The people, in general, are alive to the benefits of education. Notwithstanding the great number of our schools, another endowed and permanent one is much wanted at the north side of the parish, where there is a population of about 500, most of whom are three miles from the parochial school, which in this climate is sufficient to prevent attendance in the winter season, when they have most time.

There is a visible improvement in the conduct of the people since the facilities of education have increased. In a printed letter of the principal resident heritor, dated 1821, he says, "This parish has been, time out of mind, so ill supplied in regard to church and school, owing, in a great measure, to the residence of the clergyman being placed at the farthest extremity of the other parish, it is wonderful to me that they are not more savage and unprincipled than they are. They are a half century behind most of the other parishes on the mainland, in civilization."

Supposing this to be a correct description of their condition at the time, as he had the best opportunities of knowing, I can now testify from my own observation, as well as that of others, that they have already made up their half century of lee-way, in less than twenty years, and have made such strides in the march of improvement, that they are now equal to their neighbours, even with their twenty years additional advantages. The uncivilized state of this parish, noticed above, is ascribed to its junction with Stromness, and wanting a resident clergyman. By a decreet of the Court of Teinds, however, they were disjoined at the death of the incumbent in 1832, and since then it has formed a separate

charge, with a resident pastor, &c. The careless observance of the Sabbath is often remarked in double charges, where the people are deprived of the public ordinances of religion every alternate Sabbath, and I lament that some of this carelessness still adheres to a few of the old: yet I have cause to rejoice in the evident improvement of the young, who are generally regular in attending public worship, and a Sabbath school,—the more advanced being taught in church, immediately after public worship, and the very young in district schools. A portion of these meet in the Secession chapel.

In short, the improvement effected here affords every encouragement for disjoining the other united parishes.

Library.—A parochial library was instituted immediately after I came to reside here, for the use of which each family pays 6d. a year. It now contains 164 works, chiefly on religious subjects, besides religious periodicals. There are 74 subscribers.

Poor and Parochial Funds.—The average number on the poor's roll for three years is 20, and the average sum allotted to each, 9s. 4d. a year. The average amount of annual contributions for their relief during the same period, is L.11, 9s. 7d., which is all derived from church collections, and marriage dues, except 8s., which is the rent of a bit of ground devoted to the poor. Out of this sum, however, there are several salaries to be paid. I have never observed any reluctance to accept of parochial relief.

Fairs, Inns, and Fuel.—There is one cattle fair held near the east boundary in June. There are four alehouses, which are too many, and have very bad effects on the morals of the people, inducing habits of intemperance. Sandwick is worse provided with fuel, than any other parish in this neighbourhood, having no good moss from which coal-peats can be procured. By use and wont, however, the people have access to extensive mosses in Harray; but as these are six miles from the centre of this parish, the labour and expense of carting them home are very great.

Miscellaneous Observations.

Since the time of the last Statistical Account, the greatest improvements that have been introduced in agriculture are, better horses, the common plough instead of the single-stilted, the general introduction of carts, a good made road to Stromness, the commencement of green crop among the cottagers, and of a regular rotation on the glebe. The late plankings have shown the quantity of arable and pasture land to be much more than formerly, and the real rents are exceedingly increased. Servants' wages are

trebled, but those of tradesmen and labourers are scarcely heightened. The price of malt and eggs is doubled, while that of other provisions is not raised so much; but a good cow, that formerly sold for L.2, now costs L.4 or more. The disjunction of this parish from Stromness, and the building of two Dissenting chapels, are the most important changes in ecclesiastical affairs. The improvements of which the parish is susceptible, must be evident from the previous observations; but, again, I briefly state, that proper leases, better houses, a rotation of crops, and encouragement by proprietors, seem calculated to promote the progress of industry, and the happiness and comfort of the labouring classes, as well as the interests of the landlords.

Drawn up May 1839—*Revised July* 1841.