PARISH OF KINNETTLES.

PRESBYTERY OF FORFAR, SYNOD OF ANGUS AND MEARNS.

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I.—Topography and Natural History.

Name.—This parish appears to have derived its name from the Gaelic word *Kinnettles*, signifying "the head of the bog." The following circumstances probably gave rise to it. The bottom of the extensive vale of Strathmore, which comprehends the northern part of the parish, appears, from several internal and external evidences, to have formed, at a remote period, the bed of a large river or lake, which, finding a pretty level passage into a small valley among the Siedlaw hills, formed a kind of bay or bason,—which, when the water was diverted into another channel, formed a bog or marsh: at the head of that bog, a church was built, probably in the twelfth century,—which gave the name of Kinnettles to the parish.

Extent and Boundaries.—The parish is about 2 imperial miles in length, 2 in breadth, and, comprehending 3078 imperial acres, contains about $4\frac{3}{4}$ imperial square miles. It is bounded on the west by the parish of Glammis; on the north by the parishes of Glammis and Forfar; on the east by the parishes of Forfar and Inverarity; and on the south by the parish of Inverarity. Its figure is nearly a square.

Topographical Appearances.—Being pretty equally divided from east to west by an oblong hill, the parish is situated partly in the vale of Strathmore, and partly in the valley formed among the Siedlaw hills. In consequence of this oblong hill rising nearly in the centre of the parish, the surface of the ground is generally far from being flat. The west, north, and east sides of the hill have a gentle declivity to the extremities of these sides; and the south side declines more rapidly towards the rivulet, where the ground begins to rise with a gentle acclivity towards the southern extremity. Hence the parish has four different aspects, of which the one to the north is the largest. Now, the hill which produces all these varieties of aspect is one of the detached Siedlaw hills, called sometimes the

hill of Brigton, and sometimes the hill of Kinnettles, because it is divided betwixt the proprietors of those two estates. This hill, whose form approaches to that of an ellipsis, whose flattish top rises about 356 feet above the level of the sea, and whose attractive appearance strikes the eye of every beholder, especially when viewed from the south, instead of disfiguring, adds considerable beauty to the parish. Its beauty arises chiefly from its gentle acclivity, from its great fertility, and from its being all arable and under various agricultural crops, except a very few acres on its brow, which, being very steep, somewhat rocky, and not easily approached by the plough, are closely covered with various kinds of thriving wood. The view on all sides is grand and extensive.

Meteorology, &c.—This parish, owing to its vicinity to the German Ocean, and the situation, at least of nearly the one-half of it, among the Siedlaw hills, has an atmosphere of considerable humidity.

Among the prognostics of weather, it may be noticed that a small acquaintance with physiological botany, finds in the economy of some plants several satisfactory indications of the state of the weather. Thus, the *Convolvulus arvensis*, *Anagallis arvensis*, *Calendula pluvialis*, shut up their flowers against the approach of rain; whence the *anagallis* has been called the poor man's weather-glass. There is, in the parish, a species of soft gray sandstone, which, when built in the wall of a dwelling-house, and not coated on the inside with lime or clay, indicates rain, by becoming gloomy and moist before rain.

This parish enjoys a variety of climate, corresponding to the variety of its elevations and exposures. Those parts of it which are little elevated above the valleys, have a mild and genial climate; whereas those that are more elevated on the north, east, and west sides of the hill of Kinnettles, and on the north side of the hill of Kincaldrum, whose summit, and part of whose base, are situated in the parish of Inverarity, enjoy a purer and colder climate. But, as the highest grounds in the parish have only a moderate elevation above the level of the sea, the climate is, on the whole, justly entitled to the character of good and salubrious. It was not so, however, forty years ago, because a considerable portion of the parish was then in a state of marsh and meadow, saturated with stagnant water. But in consequence of a general drainage throughout the parish in the course of the last twenty years, there is little or no stagnant water to be found. Of course the air, although occasionally moistened with eastern haars or fogs, which come from the

German Ocean, and with the hoar-frosts to which the lower parts of the parish are more exposed than the higher, is remarkably pure and healthful. In proof of this, we have no diseases that can be said to be local. Agues, which were prevalent before drainage commenced, are now unknown; fevers of every kind occasionally make their appearance, yet they are not epidemical. Consumption, scrofula, hooping-cough, croup, measles, inflammation, and typhus fever, may be said to be our most prevalent diseases.

Hydrography.—This parish is generally well supplied with water by means of the numerous springs in which it abounds. These springs are partly perennial, and partly periodical. The perennial springs appear all to flow from sandstone rocks, and probably from the rocks composing the basis of the southern range of the Siedlaw hills. Their water is pure and soft. Their temperature generally corresponds to that of the atmosphere; and they have no peculiarities worthy of remark. There is one perennial spring, however, at the Kirktown, that justly deserves observation, not so much on account of the quality of its water, which is excellent, as on account of the quantity which it discharges. To convey some idea of its uncommon strength, it was found, on pretty accurate measurement, to discharge no less a quantity than 25 imperial gallons per minute, 1500 per hour, and 36,000 per day. In some parts of the parish, particularly the more elevated, there are a few periodical springs, which flow during winter and spring, and then cease to flow till the return of winter. Their water is, comparatively, much inferior in quality to that of the perennial springs. Being chiefly the offspring of surface-water imbibed by the earth, it is impure, hard, and strongly impregnated with the properties of the media through which it is conveyed. Besides the two kinds of springs already mentioned, there are several mineral springs, generally distinguished by the name of chalybeate, because they contain a portion of iron in solution. Their waters are exceedingly hard, unpleasant, and ill adapted for washing and bleaching clothes, and for culinary purposes. There are also two beautiful mineral springs from copper ore, the waters of which, though exhibiting a glistening surface, are extremely impure, of an offensive smell, and a disagreeable taste.

Although this parish can boast of no river, yet it is beautifully diversified by a large rivulet, called Kerbit, which, taking its rise in Dilty-Moss, in the parish of Carmylie, seven miles distant eastward, follows a north-west direction, till it forms a junction with the

Dean, then with the Isla, and finally with the Tay; and after following a most circuitous and somewhat elliptical course of seventy-two miles, it falls into the German Ocean, about ten miles to the southward of its source. It is a gentle flowing stream, about 20 feet in breadth, 2 feet in depth, and flows with a velocity of one mile per sixty-six minutes. It drives a multitude of mills, abounds in large and excellent trout, and affords much sport to anglers, with whom its winding banks are sometimes thickly planted, during the spring and summer months. It is naturally pacific: but after a great fall of rain, or an effectual thaw of a winter storm, when the melted snow and ice run down in torrents from the hills, it swells to an almost incredible extent, and lays hundreds of acres of arable and meadow ground under water.

Geology and Mineralogy.—The rocks, which enter into the composition of the hill and of the inclined planes of the parish, are whinstone, sandstone, and slate. The whinstone rock makes its appearance under the varieties of pure whinstone, trap, and basalt, in three distinct parts of the parish. But although it thus appears in a detached state, it is in all probability related to the Siedlaw range, where a zone of whinstone strata seems to be formed, running, with occasional interruptions, from S. W. to N. E. Its extent is considerable, particularly in the hill of Kinnettles, where it shows itself almost uninterruptedly from the one end of the hill to the other, whose length is not less than three-fourths of a mile. Although its depth is very considerable, varying from 40 to 100 feet, yet the thickness of its strata is not great. In consequence of its numerous intersections, the blocks of which it is composed are generally small, and very irregular. The three varieties of this rock are worked in the parish. Two of these, situated in the northern district, furnish stones of a dark blue colour; and the third, situated in the southern district, furnishes stones of a paler colour on the fracture, and externally muddy, resembling the colour of a toad. In all the three the rock is very difficult to work, and the stones which they furnish, being extremely hard in their texture, of small size, and irregular in their shape, are useful only as road-metal, and for filling drains. The sandstone or freestone rock, whose colour is partly gray and partly tinged with red, is very considerable in its extent. It not only forms the base of the hill which rises in the centre of the parish, but traces, at a certain depth, its unbroken connection with the extensive range of freestone which pervades the whole chain of the Siedlaw hills. This rock is stratified to

the very surface, has four strata of puddingstone regularly interspersed among the strata, and detached yolks imbedded in the pure strata. It furnishes stones of very large dimensions. Its strata towards the surface are thin, but, thickening downwards, they become so massy that they cannot be raised without the assistance of gunpowder. The slate-rock, which is a species of fine gray sandstone, and the only rock of the kind yet discovered and opened in the parish, does not appear to be very extensive. It is situated on the north bank of the rivulet, and appears to form part of that slaty range which extends, with several interruptions, from the commencement to the termination of the Siedlaw hills. It furnishes slates, but particularly flags, of good quality, of considerable size, and of a dark gray colour.

From a minute examination of the component parts of our globe, geologists and mineralogists have been led to conclude, that its structure has been formed by the junction of various formations. In support of this conclusion, all the rocks in this parish discover evident marks of stratification and seams of distinct concretions. The strata and beds of the whinstone rocks have a direction from E. to W., an inclination of 7° 12′ to the W., and a dip of 9° 45′ to the N. The strata and beds of the sandstone rock have a direction from E. to W. nearly, an inclination of 11° 45′ to the S. W., and a dip of 15° 30′ to the N. W. The strata and beds of the slate-rock have a direction from E. to W., an inclination of 15° 28′ to the W., and a dip of 18° 10′ to the N. W. In the three species of rock which have just been described, numerous veins are quite discernible. They frequently cut across the strata, and occasionally derange their structure. But while the veins, which cut the whinstone strata in all directions, are generally filled with a ferruginous cement, those which ramify in the freestone and slate strata are generally filled with clay, and sometimes with camstone,—which applies more particularly to the veins of the slaty strata.

In the different species of rock already mentioned, various ores are to be found. The sandstone contains copper imbedded, and lead disseminated in veins; but the quantity is so small, that it would not pay the expense of extraction. The whinstone, particularly that species of it called basalt, abounds in manganese, disseminated in veins, but is not worth working.

The freestone rocks contain various minerals,—such as garnet, mica, calc-spar, quartz, lime-spar.

The solid rocks of whinstone, sandstone, and slate, which com-

pose the interior parts of the area of the parish, are covered, almost universally, with a coating of various materials, which conceals them, with a very few exceptions of basalt, from our view. That coating, whether thick or thin, as it varies from one foot to six feet, is composed of alluvial deposits, generally imposed in layers. The lowermost layer generally consists of reddish sand or gravel; and the uppermost is composed sometimes of sandy loam, and sometimes of loam mixed with clay.

Soil.—To the agriculturist, variety of soil, corresponding to the variety of crop which he grows, must be extremely useful. Accordingly, this parish fortunately enjoys the various soils which are suited to the purposes not only of the agriculturist, but also of the horticulturist, the botanist, the florist, and the nurseryman. These soils are the clayey, loamy, sandy, gravelly, and mossy. However diversified may be the strata of the subsoil, they all, with the exception of the mossy, appear to rest, at various depths, on sandstone or freestone. Their adjuncts and concomitants may be stated as follows:—

Soils.	Extent in imp. acres.	Varying depth in inches.	Wetness or dryness.	Productiveness.
Clayey,	434	From 12 to 36	Dampish.	Most productive.
Loamy,	1881	10 to 18	Moderately dry.	Nearly as productive.
Sandy,	252	8 to 15	Dry.	Less productive.
Gravelly,	339	6 to 13	Generally dry.	Still less productive.
Mossy,	172	14 to 48	Wettish.	Least productive.

From the stratifications discernible in all these soils, it appears highly probable that they have been transported. That this has been the case with regard to the sandy, gravelly, and mossy soils in particular, must be obvious to every intelligent geologist. In former times, when the superficial area of the parish presented one continuous field, without dike or ditch, and when it was partially cultivated by a great number of small tenants, who tilled their parcels in alternate ridges, depositing all the stones which they collected on the cultivated ridge, on the intermediate uncultivated one, boulders prevailed to a great extent in the several soils; but, as soon as the spirit of cultivation began to operate with new energy, and on a more extended and efficient plan, many of the most manageable of these boulders were either blasted with gunpowder and carted away, or trailed off the ground by means of a strong sledge, drawn by oxen and horses. And, now that agriculture has reached a degree of perfection unknown to our forefathers, few, comparatively, of these stones are to be seen on the surface of the

ground. A few of them, indeed, are still to be met with in the ground; but when they are found, they are either blasted, or sunk into the earth beyond the reach of the plough. Being frequently of great magnitude, some of them of two or three tons weight, the removing of them was often a task of Herculean labour. As some of them are granites, some mica-schists, some porphyries, and some globular masses of quartz or silicious spar, they appear to demonstrate that they are not natives of the place,—and that, by means of attrition, they have been rounded and diminished in size, in proportion to the distance they have travelled.

The following is a view of the plants and animals most frequently and peculiarly attached to the soils, and to the banks of the Kerbit:

Soil.	Plants.	Animals.
Clayey, -	Spear-thistle, milk-thistle, dock, smear-dock, restharrow, redshank, mush-room, daffodil, wild-hyacinth.	Plover, wild-goose, grub, slug, worm.
Loamy, -	Ragwort, crowfoot, dandelion, wild vio-let, mountain-daisy, sorrel, spearmint.	Hare, partridge, corn-craik, hedgehog.
Sandy and gravelly,	Knot-grass, couch-grass, whin, broom, wild raspberry.	Lark, mole, centi-pede, beetle, toad, ant, lizard.
Mossy, -	Rush, flag, horsetail, colts-foot, cotton-grass, marsh-marigold.	Lapwing, snipe, wild-duck, frog.
Banks of Kerbit,	Willow, elder, queen of the mead, water-cress, fungi.	Water-rat, otter, he-ron, kingsfisher.

Although several springs in the parish strongly indicate the presence of iron and copper ores, there is not a mine of any description worked. In an inclined plane, on the north-west base of the hill of Kinnettles, coal was, long ago, supposed to exist. About seventy years ago, the supposition became generally so strong, that the proprietor of Brigton employed some practical miners to make a search. This they did by boring to a considerable depth; and tradition says, that, in conducting the search, a stratum of coal was actually found, but that the miners were bribed. There is still an idea that coal might be extracted from the place referred to.

Zoology.—The only species of animals among our native quadrupeds, which are seldom to be found in some neighbouring parishes, are, the fox, badger, polecat, squirrel, weasel, hedgehog, and otter. The migratory birds are, the lapwing, plover, swallow, cuckoo, landrail, kingsfisher, woodcock, wild-goose, and heron. With the exception of the woodcock and wild-goose, which generally appear in the beginning of winter, these birds make their appearance about the beginning of May, for the purpose of breeding, and

take their departure about the end of September. The heron, however, is frequently to be seen in winter on the banks of the Kerbit.

In regard to their live-stock in general, the farmers in this parish, though generally more disposed to graze and feed than to breed and rear, are equalled by few, and surpassed by none in the county. Whether they breed and rear, which they do to a considerable extent, or whether they purchase to supply the deficiency, which they often do, but always with the greatest care, they generally make a point of keeping a live-stock of superior quality, large size, and great value; and thus, since the introduction of enclosures, turnips, potatoes, and sown grasses, there has been a remarkable improvement of every species of live-stock. The cattle, formerly of small, are now of large size; and when well fed on turnips, potatoes, or grass,—a practice extensively followed in the parish,—they are much esteemed in the Edinburgh and Glasgow markets, where they bring high prices. Nor are the farmers less conspicuous for the superior stock of horses which they keep. Whether they breed and rear their own horses, which they generally do in a great measure, or whether they make purchases from the south and west country dealers to make up the deficiency of rearing, which they occasionally do, but with the utmost caution and nicest selection, they never fail to keep up a choice stock. The case was different in former times. When roads were bad, and when most carriages were performed on horseback, and when the plough and wain were drawn chiefly by oxen, the breed of horses was comparatively small. But the native breed has been improved, both in size and shape, in proportion as they have been regularly worked, well fed, and amply provided with winter provender. To such perfection have they been brought, that a pair are now sufficient for the cart or plough; and, in drawing these implements, they perform more work, and to better purpose, in a given time, than six oxen, preceded by two horses, did in the days of our fathers; and in such estimation are the horses that have been reared in the parish held, that a pair, when sold, often bring from L. 60 to L. 80. The number of swine reared and fed in the parish has been greatly on the increase for several years past. Two breeds of swine, with various mixtures and crosses of these, are to be found in the parish. The first kind has large slouched ears, long bristles on the dorsal ridge, long shaggy hair, and a long

tapering snout. They feed to eighteen or twenty stones, imperial weight, and, when well fed, make excellent pork; but the small Chinese breed abounds most, and feeds from eight to ten stones, imperial weight. Those who keep a stock of hogs generally keep them in good condition, and feed them highly.

Every species of corn grown in the parish is less or more exposed to the depredations of insects. Wheat suffers from slugs; but the greatest enemy that has yet assailed it, is a fly that was introduced in 1826, and that made its appearance in 1827. This insect inserts into the ear its ova, which, soon becoming small worms, injure it very much. In consequence of the rapid and extensive depredations of this insect, wheat has been almost banished from the parish for the last six years. Fortunately, however, the last crop has suffered but little from its ravages, and hopes are entertained that it will soon disappear from this quarter.

II.—Civil History.

The ancient history of this parish appears to be involved in great obscurity. Although the old church and tower, which stood in the present churchyard, and which were taken down in 1812, exhibited strong presumptive evidence of their having been erected in the twelfth century, yet no authentic account of the parish can be traced beyond the era of the Reformation. At that period, and for about 200 years after, its extent was much less than it is at present; then, the Bishop of Dunkeld was proprietor of about 200 Scotch acres of land, which, though locally situated in the parish of Caputh, lay conterminous with the southern extremity of the parish, and were held on lease by a tenant called Alexander Pyott. From his principles and practices, Pyott appears to have been a discerning, selfish, staunch, papist. Alarmed at the progress of the Reformation, he repaired to Dunkeld, in order to hold an interview with his bishop concerning the state of public affairs. The bishop received him most cordially: and on Pyott's assuring him that he would strain every nerve to resist the progress of the Reformation, he immediately wrote out a disposition of the said lands in Pyott's favour. On receiving this document, Pyott, exulting at the success of his visit, returned home with his new acquisition; and, without loss of time, he repaired to his holiness at Rome, and got the deed of conveyance confirmed by a Popish bull,—in virtue of which it is held at the present day. The last Popish proprietor of the lands in question, sinking into poverty, sold them in

1758 to the Earl of Strathmore; and in 1773 the General Assembly of the Church of Scotland annexed them, *quoad sacra*, to the parish of Kinnettles.

Eminent Men.—Only two eminent men seem to have been connected with this parish for the last 100 years. The first is Colonel William Patterson, son of a gardener to Mr Douglas of Brigton, about the middle of the last century. Honoured with the patronage of Lady Mary Lyon of Glammis, he rose to the dignified station which he filled during the greatest part of his remarkably diversified life. He was connected with the parish by birth, as well as by residence in his early years. *

The other eminent character alluded to is John Inglis Harvey, Esq. of Kinnettles. He was born and resided in this parish till he attained the age of sixteen years. After receiving a classical education in his father's house, he was sent to one of the English universities, where he was instructed in general literature and science, but in the law department in particular, and where he carried several prizes. Having thus qualified himself for some conspicuous station, he, about twelve years ago, obtained an appointment to a very honourable and distinguished office in the East Indies; and afterwards ascended the bench as a civil judge in that country.

Land-owners.—The land-owners in the parish are, the Earl of Strathmore; Robert Douglas, Esq. of Brigton; John Inglis-Harvey, Esq. of Kinnettles; Captain John Laurenson of Invereighty; and Mr John Wighton of Muiryknows.

Parochial Registers.—The kirk-session is in possession of six

* The cenotaph in the church-yard of his native parish bears the following inscription: Sacred to the memory of Colonel William Patterson, Fellow of the Royal Society, Member of the Asiatic and Linnean Societies, Lieutenant-Colonel of the 102d Regiment, and for many years Lieutenant-Governor of New South Wales. He served thirty years in the army,—twenty-five of which were passed in the East Indies, and in New South Wales; and, in fulfilling his duty to his country, he twice circumnavigated the Globe. His taste for Natural History induced him in the earlier part of his life, to travel from the Cape of Good Hope into the interior of Africa, into which country he penetrated farther than any European had ever done before him. His unwearied assiduity in the pursuit of science, supported in an unusual degree by talent and zeal, enabled him to collect, and bring to England, specimens of plants and other curiosities till then unknown. He discharged with honour and fidelity the trust reposed in him as an officer; and his services were particularly valuable in New South Wales, as Lieutenant-Governor of that settlement. Nor did he there neglect his favourite pursuit, but continued to enrich both public and private museums, by employing his leisure hours in useful researches. His life was not less amiable than useful; and his happy disposition endeared him to his dependents, to society, and to his friends. After a long period of ill health, he attempted to return to his native country, but it pleased God to take him during his voyage. He was born in this parish on the 10th of August 1755, and died on the 21st of June 1810.

volumes of old parochial registers, comprising entries of the proclamation of the banns of marriage, baptisms, deaths, discipline, collections, and disbursements. These entries, however, are exceedingly irregular, intermixed, and imperfect; and marriages, births, and burials, are entirely omitted; but in 1806 the mode of entry was altered, and a new arrangement adopted. A new set of registers, six in number, neatly bound and titled, were introduced in 1820. Vol. 1. contains an entry of the proclamation of the banns of marriage, and of the marriage itself; vol. 2. births and baptisms; vol. 3. deaths and burials; vol. 4. income; vol. 5. expenditure; vol. 6. discipline. All the volumes, twelve in number, including old and new, are carefully and regularly kept.

Antiquities, &c.—In the churchyard are to be found some tombstones of considerable antiquity. One is distinctly dated 1626, another 1630. A few, from the quality of the stone, the form of the letters, and the strange figures engraven on them, appear to be somewhat older; but the inscriptions which they bear are nearly effaced. There are also a few stones exhibiting unknown characters, apparently very old: and there are two other monuments, somewhat of a colossal kind, designed with much taste, and executed in a masterly style. But of all the sepulchral monuments, those erected in 1814, by and for the families of Brigton, Kinnettles, and Invereighty, are by far the largest, and the most substantial.—Not many yards distant from the south bank of the rivulet, stands a rising ground, somewhat conically shaped, which, from its having been, time immemorial, called Kirkhill, is generally supposed to have been at some remote period the site of a religious house.—After the parish church was filled with Protestants, the proprietor of Foffarty, aided by the Papists in the neighbourhood, set about building a popish chapel on his property, and appointed a priest to conduct the Romish service, to whom he gave a manse, offices, garden, glebe, and salary. That chapel was erected on the margin of a den at the foot of Kincaldrum hill. It was burnt by a party of royal dragoons in 1745, and remained roofless and ruinous for many years. The area of the building, and a considerable portion of the walls, were distinctly visible so late as 1816. Then the ruins were dug up from the very foundation, and carried away to fill up drains. Mr Bower of Kincaldrum, a Roman Catholic, together with the male part of his family, removed the stone which held the holy water, as a precious relict, to his own premises, where

it is still to be seen. The glebe, which belonged to the priest, and which consisted of four Scotch acres, lay at no great distance from the chapel. It remained for many years unclaimed by any person, after the chapel had been burnt and deserted. Even after the Earl of Strathmore had purchased the lands of Foffarty, he did not venture, for a considerable time, to break ground upon it, although it lay a kind of waste in the midst of his cultivated fields. At last, however, he did take possession of it, and bring it into cultivation. But as it was locally situated, with the other lands of Foffarty, in the parish of Caputh, the present minister of that parish advanced his claim to it, once and again, between twenty and thirty years ago; but lost it in the Court from the want of a charter, and from the want of occupancy. The whole lands of Foffarty being church lands, pay no minister's stipend, but hold *cum decimis inclusis.* But although the chapel above described had been long burnt and deserted, the late Mr Bower of Kincaldrum did not renounce, but stedfastly adhered to, the Roman Catholic religion: and he converted one of the rooms in the old mansion-house of Kinnettles (of which he was then proprietor) into a chapel,—erecting an altar in it, and employing the Catholic priest of Dundee to officiate at stated times, when he himself, his family, and a few scattered Papists in the neighbourhood, attended worship, and celebrated mass.*—In 1833, one of the ploughs in a grass-field, dug up in a pretty entire state of preservation, what an antiquarian would be disposed to consider a great curiosity in this part of the kingdom, an "upper millstone of a hand-mill." It is 25¼ inches in diameter, 1½ inch thick, nearly quite circular, neatly hewn with the chisel, and displays the nicest workmanship around the small circular opening in the centre. The stone of which it is composed is mica-schist, has a leaden colour, contains a mixture of silicious spar, and is thickly studded with small garnets. It is probably of great antiquity. The mortar appears to have been the earliest instrument that was used in combination with the pestle, for grinding corn. But as this proces was very laborious, attended with little execution, and productive of the coarsest manufacture, it was probably soon superseded by the invention of the *mola manuaria*, or hand-mill, which was for ages worked by bondmen and bondwomen. As this mill was more effective, and furnished meal of better quality than that produced by the mortar

* The MS. contains a description of several coins of James I., George I., &c. found in the parish.

and the pestle, it was probably invented in the earliest ages. But, being originally imperfect and susceptible of improvement, it was gradually improved as the sphere of mechanical knowledge was enlarged. With a view to abridge manual labour, it came in process of time to be so constructed as to be worked by oxen and horses. This improved form of it appears to have existed at an early period; for we find that *molæ jumentariæ* were employed from the very origin of the Roman republic. And as Strabo, Vitruvius, and Palladius inform us, that water-mills were introduced in the reign of Julius Cæsar, hand-mills were probably laid aside about the beginning of the Christian era; and, of course, the millstone above described, may be 1600 or 2000 years old.

Modern buildings.—Most of the buildings in the parish are of modern erection. The church was built in 1812, of stone and lime, and roofed with blue slate. With the exception of the old mansion-house of Kinnettles, a part of the large mansion-house of Brigton, the mansion-house of one of the farmers of Ingliston, the mansion-house and mill of Invereighty, and the mill of Kinnettles, which was greatly enlarged and repaired in 1830,—all the mansion-houses in the parish have been built within these fifty years. While those mansion-houses which were built upwards of fifty years ago are generally built of stone and clay, and covered partly with gray slates and partly with thatch; those that have been built since are generally of stone and lime, and covered partly with gray slates, and partly with blue. But the mansion-houses of all the proprietors and of some of the farmers are covered with blue slates. The large and spacious spinning-mill at Douglastown four stories high, and of proportionate length and breadth, was built of stone and lime towards the end of the last century, and covered with blue slate.

III.—Population.

In 1775, the population amounted, according to a pretty accurate statement, to			616
And in 1790 to			621
In 1800,	260 males,	307 females.	567
1811,	242	280	522
1821,	273	293	566
1831,	246	301	547

The causes of the decrease of population are, non-residence to a limited extent, emigration, enlarging of farms, and razing cottar-towns or hamlets, of which three, called the Frouchment, Cotton of Invereighty, and Cotton of Ingliston, were razed towards the end of the last century, while their inhabitants, amounting to upwards

of 300, were driven from their habitations; also the resorting of the poor and of operatives to towns, where they more readily find a residence, and where they meet with more employment and on easier terms than in the country.

Number of the population residing in two villages,	214
in the country,	333
The yearly average of marriages for the last 7 years,	6⅝
of births,	16⅞
of deaths,	9
The average number of persons under 15 years of age,	197
betwixt 15 and 30,	143
betwixt 30 and 50,	134
betwixt 50 and 70,	56
upwards of 70,	17
The number of proprietors of land of the yearly value of L. 50 and upwards,	5
of families in the parish is	106
chiefly employed in agriculture,	35
in trade, manufactures, or handicraft,	51

Number of bachelors upwards of 50 years of age,* 6; of widowers, 4; of widows, 10; of unmarried women upwards of 45 years of age, 9; number of families, 106; average number of children in each family, $3\frac{2}{6}\frac{8}{9}$; number of inhabited houses, 96; number of houses uninhabited, 0; number of insane persons not natives, in the parish, 2; of fatuous 1; of blind, 2.

Customs, Character of the People.—The dress of the people, if not the same as that of the English, must be allowed to be a very close imitation of it; and no class is so poor as not to have an abundance of plain, wholesome food. The people generally live in commodious houses, follow agreeable occupations, enjoy a competency of the means of subsistence, live on friendly terms, and maintain a reciprocal exchange of good offices. They bear generally a fair moral character; nor are they inattentive to the duties of religion. The best proofs which they can give of the estimation in which they hold the Bible, and the character which it is calculated to form, are, their acquaintance with the Holy Scriptures, their observance of the Sabbath, their celebration of the sealing ordinances of the Gospel, and their earnest endeavour to conform their temper and conduct to the example of Christ.

Poaching in game, and purchasing contraband spirits from the Grampian smugglers, long prevailed to a considerable extent in the parish; but, through the vigilance and severity of the excise, they

* A few years ago died a native of this parish named Boath, at the age of 93. Though not of great stature, he possessed extraordinary strength, and swiftness in running. He was at the same time of eccentric character. Instances of longevity are frequent in the parish. One man is going 93 years of age; a husband and wife 87 each; two gentlemen 80 each.

have several years ago been completely suppressed, and are now unknown.

IV.—Industry.

Agriculture and Rural Economy.—

The number of acres, standard imperial measure, in the parish, which are regularly cultivated, - - - - - - - 2848
Number of acres which never have been cultivated, and which remain constantly waste, - - - - - - - - 106
The number of acres that might, with a profitable application of capital, be added to the cultivated land of the parish, - - - - - 106
The number of acres under planted wood in the parish, - - - - 124

The kinds of trees generally planted are, Scots fir, silver fir, spruce, larch, oak, ash, elm, plane, beech, lime, birch, gean, hornbeam, poplar, chestnut, aspen, laburnum, hazel, willow. Their management in general cannot be said to be the best, their thinning and pruning being but occasionally, partially, and imperfectly performed.

Rental.—The valued rent of the parish in Scotch money is L. 1865, 3s. 4d. The gross rent of the parish, arising from arable land, L. 4162, 19s. Sterling; from village-houses and gardens, L. 138, 15s.; from cottar-houses and gardens, L. 51, 10s.; total, L. 4353, 4s.

Rent of Land.—The average rent of arable land per acre in the parish, L. 1, 9s. 2¾d.; the average rent of grazing per acre, at the rate of 40s. per ox or cow grazed for the season, L. 2; at the rate of 10s. per ewe or full-grown sheep pastured for the year, L. 2.

Husbandry.—The following may be considered as the rotations generally adopted throughout the parish. First rotation. 1. oats after grass; 2. green crop, with manure; 3. barley, with grass-seeds; 4. grass cut or pastured; 5. grass pastured. Second rotation. 1. oats after grass; 2. oats a second time; 3. green-crop, with manure; 4. barley; 5. naked fallow: 6. wheat, with manure and grass-seeds; 7. grass, cut for hay; 8. grass pastured. Third rotation. 1. barley after grass; 2. turnips (with bone-dust) the one-half being drawn, and the other half consumed with sheep; 3. barley, with grass-seeds; 4. grass, cut or pastured; 5. grass pastured.

The following is a tabular view of the average extent annually sown, and of the average produce annually reaped, in the parish:

Species of grain sowed.	Number of acres under crop.	Average produce in stand. imp. measure per acre.	Aggregate produce in standard imperial quarters.
Wheat, -	112		448
Barley, -	412	Quarters	1648
Oats, -	638	4	2552
Rye, -	7		28
Pease, -	6		24
	1175 acres		4700

Acres under turnips, 286; under potatoes, 101; under sown-grass, 1178; under meadow-grass, 106; under fallow, 108.

Implements of Husbandry, &c.—In the parish there are, generally, carts, 35; ploughs, 35; harrows, 105; drill-harrows, 18; turnip-machines, 15; rollers, 18; fanners, 19; thrashing-mills, 8; meal-mills, 2; barley-mills, 1; spinning-mills, 1; yarn-mills, 2; chaises, 2; gigs, 3; cars, 1.

Permanent Live-Stock.—Work-horses, 70; riding-horses, 16; fillies, 11; asses, 2; milch-cows, 104; cattle, 422; calves, 86; sheep, 320; swine, 64.

Prices.—The average selling prices of the different kinds of grain grown in the parish are as follows: wheat, 54s.; barley, 27s.; oats, 22s.; rye, 21s.; pease, 21s. per imperial quarter.

The average price of different articles of parochial produce and manufacture required for the different purposes of rural and domestic economy:

Oat-meal, per imperial stone, 1s. 7d.; barley-meal, per ditto, 1s. 4d.; barley-flour, per ditto, 1s. 7d.; pot-barley, per ditto, 3s. 4d.; cheese, per ditto, 6s. 6d.; potatoes, per ditto, 3d.; milk, per imperial quart, 2d.; butter, per imperial lb., 7d.; honey, ditto, 1s.; eggs, per dozen, 6d.; hens, per each, 1s. 2d.; chickens, ditto, 4d.

This parish affords but little scope for the husbandry of sheep. About 320, however, are generally kept throughout the year by gentlemen and farmers, who keep them partly for domestic purposes, but chiefly for enriching their fields. The kinds kept are various. The proprietors of the parish usually keep in their lawns a small mixed flock of the Linton, South Down, and Merino breeds, which in summer are subsisted on grass, and in winter, partly on grass, and partly on turnips, hay, and straw; and, from the excellent shelter afforded them, they thrive uncommonly well, and are generally very productive. Some of the farmers keeping sheep, particularly in winter, more for the market than for family use, generally keep the Linton, Cheviot, and Leicester breeds. In summer, such as keep them, graze them in their enclosures; and in winter, when the greatest stock is kept, after drawing the one-half of their turnips in alternate drills, or in alternate doublets, they employ their sheep in consuming the other half, which they usually do, enclosed in nets or *hurdles*, provincially called flakes, constructed for the purpose, and which easily shift from one place to another. Along

with the turnips, they receive daily a quantity of hay or straw, which they eat from covered hecks. And if the winter prove dry and favourable, they are generally fed off, and found in excellent condition for the butcher by the month of April, when they bring from L. 1 to L. 1, 8s. per head. The complement being thus reduced by the sale of the fat sheep, is made up partly by the remaining ewes and lambs, and partly by purchases at the sheep-markets. The rearing, grazing, and feeding of cattle are favourite objects with our farmers, because they are profitable in regard to manure, as well as to money. But not rearing a number sufficient for consuming their grass and turnips, they supply the deficiency by purchases made at the several fairs, from the famed cattle-rearing counties of Mearns, Aberdeen, and Moray. If not sold at the end of the grazing season, they are fed off on turnips and straw during winter, and bring very high prices in the Edinburgh or Glasgow markets. As great attention is thus paid to rearing, grazing, and feeding, the parish contains a large and valuable stock of cattle. Besides a permanent and flying stock of cattle, the farmers generally keep a considerable stock of cows, partly of the Angus, and partly of the Ayrshire breeds, for yielding milk for rearing calves, and for dairy purposes: And it is reckoned a very good cow that yields four or five imperial gallons of milk per day during the best of the season.

Draining, &c.—About thirty years ago, there was a considerable extent of waste land in the parish; but, by means of draining within these twenty-five years, it has been, with the exception of about 106 imperial acres of flat marshy ground along the northern extremity of the parish, subjected to the plough, and converted into corn land. And now that the trustees of the late Earl of Strathmore have widened and deepened the great drain which extends from the loch of Forfar to the back of the Castle of Glammis, the whole waste land alluded to will be easily drained and reclaimed, and twenty acres of it will be under corn crop this season. In the course of two years, the whole superficial area of the parish, the rocky brow of the hill of Kinnettles only excepted, will be in an arable state. Several years ago, paring and burning were the two great expedients employed here in reclaiming waste land; but, having been found, on experience, to reduce and deteriorate the most productive part of the soil, these have been laid aside for ten years in the improvement of waste land. The plan now generally adopted in reclaiming land of this description is, to plough it very deep,

to let it lie in the ploughed state till the swardy furrows have rotted, next to cross plough it, and then to finish the process by breaking and pulverizing it by the action of the harrow.—Irrigation, which in many cases meliorates the soil, is not attempted in the parish, because there is not a sufficiency of water convenient for the purpose, and because, though there were a sufficiency, the water, owing to the intersected state of the fields by covered drains, would not extend, as was found by experiment in 1826, but sink down into the first intersection.—The only specimens of embanking in the parish are those raised on the banks of the Kerbit, to protect the adjacent flat fields from the violence of its destructive inundations; and they have the desired effect.

In former times, when the land in the parish was far behind in cultivation, and when it required a considerable outlay on the part of the occupant to bring it into a proper productive state, the proprietors were accustomed to grant long leases, generally thirty-nine years, with the lifetime of the occupant after the years specified in his lease had expired. But as soon as the cultivation of their properties had attained to a considerable degree of perfection, they, from a desire of regulating the progressive rise of rent by the progressive improvement of the times, abandoned this system of leases, first, by lopping off the lifetime period after the stipulated number of years, and then by abridging the length of the lease to twenty-one years. At the last general letting in the parish, the period was reduced to nineteen years, which is now the duration of almost every lease in the parish, there being no liferenter in it since 1831.

The complaint brought by many farmers in other districts of the county, against the backwardness of their landlords in affording them the necessary accommodations in respect of dwelling-houses and steadings, cannot with propriety be brought against the proprietors of this parish. On all their farms, exceeding ten imperial acres, commodious and substantial dwelling-houses and steadings have been erected. But although all the farm-steadings may be thus reported to be in a good state of repair, the same favourable report cannot be made of the farm-enclosures. The great bulk of the parish, indeed, is well enclosed with substantial stone-dikes; but there are about 400 imperial acres on which there is hardly the shadow of an enclosure.

Quarries.—The various kinds of quarries discovered and opened in the parish are of whinstone, sandstone, and greywacke flag, and slate. The whinstone, which appears under three varieties, is work-

ed by the road trustees, for the purpose of furnishing metal for the turnpike and parish roads. The sandstone quarries are occasionally worked by the gentlemen to whom they belong, not for public sale, but for their own private architectural uses. And the greywacke flag and slate quarry is worked only by its proprietor for his own accommodation.

Produce.—The average gross amount of raw produce raised in the parish, as nearly as that can be ascertained, is exhibited under the following heads:

Produce of grain of all kinds, whether cultivated for food of man, or the domestic animals,	L. 6296	4	0
Of potatoes and turnips, cultivated in the fields for food,	2036	0	0
Of hay, both cultivated and meadow,	242	10	0
Of land in pasture, rating it at L. 2 per cow, or full-grown ox, grazed for the season, or rating it at 10s. per ewe, or full-grown sheep, pastured for the year,	2228	12	6
Of gardens,	60	14	3
Of the annual thinning and perlodical felling of plantations,	140	10	8
Of wool,	66	0	0
Total yearly value of raw produce raised,	L. 11,070	11	5

Manufactures.—The great manufactory in the parish is the spinning-mill of Douglastown, erected in 1792, and consisting of twelve horse-power, driven partly by water, and partly by steam,—the steam-engine being seven horse-power. It gives steady employment to 10 flax-dressers, 12 preparers, 16 spinners, 7 reelers, 2 turners, 1 steam-engineman, and 1 clerk, who superintends the whole establishment; and, consisting of 14 frames, of 30 spindles each, it throws off 234 spindles per day, and 1404 per week. The yarn is all manufactured into cloth, and exported by the tenant to foreign markets. The other branches of manufacture in the parish, with the number of hands employed in each, are as follows:—The number of hands employed in weaving osnaburgs, 5 males and 18 females; hessians, 2 males and 1 female; bleached sheetings, 5 males; brown sheetings, 2 males; in mill-spinning of yarn, 26 males and 23 females; in washing yarn at 2 yarn-mills, 5 males and 2 females.

In weaving these fabrics, men and women usually work five days per week, and fifteen hours per day. In conducting the spinning of yarn at the spinning-mill of Douglastown, the men, women, and children, by whom that branch of manufacture is conducted, usually work six days per week, and, now that the Factory Bill is in operation, twelve hours per day, except Saturday, when they cease working at three o'clock in the afternoon.

Whether these manufactures afford a fair remuneration and

support to those engaged in them, may be ascertained from the following statement:—The average rate of weaving a web of osnaburgs, 150 yards long, 8s.; of hessians, 124 yards long, 8s.; of bleached sheetings, 110 yards long, 14s.; of brown sheetings, 104 yards long, 11s. Thus it appears, that, when provisions are moderate in price, the manufacturer, by receiving 2s. 9½d. per day for his highest manufacture, (which he weaves in five days,) and 1s. 7d. for the lowest, is comparatively pretty well remunerated for his labour; and, since the males employed in the said spinning-mill receive each on an average 2s. 3d. per day, and the females 4s. 6d. per week, they are enabled to live in a tolerably comfortable state.

Mill-spinning and weaving, from the long daily confinement attending them, the imperfect ventilation of manufacturing houses, and noxious flaxen dust inhaled into the lungs in respiration,—seldom fail to produce bad effects on the constitution; disposing those that are exposed to them to assume prematurely the pale emaciated countenance, and to contract asthmatical and dropsical diseases, which not unfrequently adhere to them through life. Spinning-mills and manufacturing shops, in which many young of both sexes are frequently blended together, have, at the same time, not always the best effect on the morals of youth.

V.—Parochial Economy.

Market-Town.—The nearest market-town is Glammis, where three cattle and sheep-markets are periodically held in the course of the year. At Forfar, the county-town, distant about three miles, seven or eight markets are periodically held during the year, for cattle, horses, and sheep. Besides, a cattle-market, commonly called the *crafts*, is held on every Wednesday from Martinmas to the middle of April; and a weekly market every Saturday for butter, cheese, eggs, and poultry.

Villages.—There are two villages in the parish. Douglastown, so called from the late Mr Douglas of Brigton, was erected by that gentleman and his partners, at a great expense, in 1792, chiefly for the accommodation of the hands employed at the spinning-mill. It, however, contains a vintner, a blacksmith, a shoemaker, two tailors, a cloth and grocery merchant, various mechanics, and a population of 162 persons.—The other village is the Kirktown, a small but handsome village, built in 1813, and containing, in a population of 52 persons, the parish schoolmaster, a female teacher of sewing and fancy-work, a carpenter, a grocery merchant, and various mechanics.

Means of Communication.—The means of communication enjoyed by the parish are various. 1. Although it has no post-office, yet letters, newspapers, and parcels are regularly brought to and carried from the inn at Douglastown by the post, which runs daily betwixt Forfar and Glammis. 2. The Strathmore turnpike-road passes, upwards of two miles, nearly through the centre of the parish; and the turnpike-road betwixt Dundee and Forfar passes, nearly a mile, through the eastern parts of the parish. 3. The Defiance coach, which runs between Edinburgh and Aberdeen, travels every lawful day on the Strathmore turnpike-road, and also the Glasgow carrier once a-week; and on the turnpike-road betwixt Dundee and Forfar, travel, every lawful day, the Union and Sir Henry Parnell coaches, betwixt Edinburgh and Aberdeen, *via* Fife; besides other public carriages betwixt Dundee and Forfar on stated days of the week. 4. There are, in different parts of the parish, five arched and parapeted bridges, built with stone and lime, and one chain-bridge across the Kerbit at the Kirktown. The handsome stone bridge across the Kerbit at Douglastown, and consisting of three arches, was erected in 1770: two of one arch each, and two consisting of two arches each, across the Spittle-burn, were built neatly and substantially towards the end of the last century. These bridges are in good condition.—The fences, partly thorn-hedges, but chiefly dry-stone dikes, are generally in good condition.

Ecclesiastical State.—Owing to the hill of Brigton and Kinnettles rising nearly in the centre of the parish, it was judged by our forefathers to be inexpedient to build the parish church in a centrical place; but, although it stands at the south-west side of the hill, and consequently near to the western extremity of the parish, it is not inconvenient for any part of the population, being nearly centrical between the northern and southern extremities of the parish, and not exceeding two miles from the remotest corner, while that distance is considerably diminished by means of a kirk-road along the top of the hill.

The church was built in 1812, solely at the expense of the heritors, the parishioners contributing not so much as a single carriage towards its erection. From its having been so recently built, and that, too, in a neat, commodious, and substantial style, it is at present in a state of tolerably good repair.

The church, galleried upon the principles of modern architecture, affords accommodation for 420 sitters. The free sittings are,

the front seat of all the galleries, accommodating thirty-six sitters, and reserved by the heritors for themselves and their families; one seat, on the ground floor, for the minister's family, accommodating six sitters; and one seat, also on the ground floor, for the elders, accommodating six sitters. All the other seats are let annually at 2s. per sitter. The communion-table, which is neat and commodious, extends, with the exception of the east and west passages, the whole length of the church, and accommodates fifty communicants at each service.

The manse was built in 1801; repaired in 1807 and 1811; and, owing to its small size and superficial workmanship, cannot be said to be in a good state of repair at present. But, from the disposition of the heritors to grant comfortable accommodation, hopes are entertained of its being enlarged and repaired in the course of the season.

The glebe contains 8½ imperial acres, and is now all arable. Its annual value is not easily ascertained. Consisting of various kinds of soil, and containing two acres of poor gravel, it cannot be estimated at more than L. 12, 15s. per annum, which is at the rate of L. 1, 10s. per acre. Hence the glebe, though an accommodation, is by no means a profit to the incumbent.

As the teinds of the parish were at different periods all valued in money at a very low rate, they fell short of the minimum stipend by L. 30, 1s. yearly; but the deficiency is made up by the Government bounty.

The number of families attending the Established church is 102; the number of persons of all ages attending the Established church, 530; the number attending the chapels of Dissenters and Seceders, 2; of Episcopalians, 16. Divine service at the Established church is generally well attended. The average number of communicants at the Established church, 240. The average amount of church collections yearly, for religious and charitable objects, L. 22, 7s. 3d.

Education.—There are two schools in the parish, the parochial and a sewing school. The branches of instruction taught in the parochial school are, English reading, writing, arithmetic, book-keeping, the elements of algebra and mathematics, English grammar, geography, Latin, and French. The branches taught in the female school are, English reading, and several varieties of needle and fancy work. The salary of the schoolmaster is

L. 34, 4s. 4½d. As the school is always well attended, the school-fees amount, on an average, to L. 50 a-year, which, with the salary and perquisites, realize an income of about L. 84, 4s. 4½d. per annum, and, of course, afford a pretty fair remuneration for the arduous labour of teaching a parochial school. The income of the schoolmistress, however, is disproportionate. She has, indeed, a free house and garden, but no salary. With the exception of her house and garden, which she holds by grant from the benevolent family of Kinnettles, she is left entirely to depend on her precarious school-fees. But, by her attention and accomplishments, she has hitherto been enabled to earn a tolerably comfortable livelihood.

The parochial teacher has the legal accommodations. He has a well-finished two-story dwelling-house, an excellent school-room, and two bolls of oatmeal in lieu of a garden.

The four rates of school-fees, fixed about thirty years ago by the competent judges, are, per quarter, 2s. 6d. for beginners; 3s. for reading and writing; 4s. for arithmetic; and 5s. for the learned languages; but, as teachers in general have the practice of multiplying books in the hands of their scholars, the quarter fees seldom amount to much more than one-half of the total expense of education per quarter.

All young persons in the parish betwixt six and fifteen years of age can read, and nearly all write also; and the number of persons in the parish, upwards of fifteen years of age, who can neither read nor write, is only 1. The people, in general, are alive to the benefits of education; and parents, in particular, make great exertions to have their children well educated. The total number of scholars at school in the parish is 112.

Poor and Parochial Funds.—Public begging is unknown in the parish. Its paupers are all supported by the parish funds; and the average number of persons receiving parochial aid is 6. The average sum allotted to the first is 3s. per month; to the second, 3s. 6d.; to the third, 4s.; to the fourth, 5s.; to the fifth, 10s.; to the sixth, L. 1, 1s. 8d. The whole monthly expenditure, L. 2, 7s. 2d.; yearly, L. 28, 6s. The contributions to the parochial funds arise from various sources; as follows: The annual average amount of church collections, L. 22, 7s. 3d.; mortcloth dues, L. 1, 7s. 10¼d.; civil penalties, L. 1, 5s. 8½d.; marriage proclamations, 6s. 2d.;—amount of annual income, L. 25, 6s. 11¾d. But, as the expenditure

exceeds the income, the deficiency is made up, sometimes by drawing on a small fund created in better times, and sometimes by occasional extraordinary collections at the church. Besides, the late Mr James Maxwell, mill-wright, who was born, and lived in the parish till within a few years of his death, bequeathed, in a most charitable and exemplary manner, about four years ago, L. 50, subject to the legacy-duty, to be distributed, within a specific period, in coals, among the poor of the parish; and from this bequest, the poor have derived, and will continue for several years to derive, much comfort and relief during the inclemency of winter. By a judicious application of these resources, the managers of the poor have as yet been enabled to go on without allowing any parochial begging, and without calling in the aid of an assessment.

In former times, the Scottish spirit, generally, could not brook the idea of seeking parochial relief; but this spirit of independence has now been greatly and generally abated.

Inns and Alehouses.—Prior to Martinmas 1833, there was one inn and one alehouse in the parish, both situated on the Strathmore turnpike-road; but the alehouse has since been abolished.

Fuel.—For ages, peat and wood, whin and broom, constituted the fuel of the parish; but now, that the neighbouring peat-mosses are nearly exhausted, and whins and broom nearly exterminated, the ordinary fuel is wood and coal in summer, and coal, with a small proportion of wood, in winter. Both English and Scotch coals are used; but the English chiefly. These coals are procured at Dundee, twelve miles distant; the English at from 4s. to 6s. per 6 cwt. or 1 boll of 42 imperial stones; and the Scotch at from 4s. 8d. to 6s. 8d. per 6 cwt. or 1 boll of 42 imperial stones. The ordinary price of driving 6 cwt. or 1 boll of coals from Dundee to the parish is 3s. Hence the necessity of a canal, or efficient railway, from some of the sea-port towns into the interior of the country.

Miscellaneous Observations.

In 1792, the best arable land in the parish was rented at L. 1, 5s. per Scottish acre; but now it is rented at L. 2, 11s. 5d.—a fact which shows that the value of land is still more than double of what it was at the publication of the last Statistical Account. In 1792, a male-servant's yearly wages, including L. 8 in money, and L. 6, 11s. 5d. the estimated value of maintenance was L. 14, 11s. 5d.; but now, including L. 10, 15s. in money, and L. 9, 15s. 10d., the esti-

mated value of maintenance, it is L. 20, 10s. 10d. In 1792, a female-servant's yearly wage, including L. 3 in money, and L. 4, 6s. 8d. the estimated value of maintenance, was L. 7, 6s. 8d.; now it is, including L. 5, 15s. in money, and L. 6, 8s. 2½d. the estimated value of maintenance, L. 12, 3s. 2½d. In 1792, the wages of a day-labourer per day, without victuals, were 1s. 1d.; of a carpenter, 1s. 4d. and of a mason, 1s. 6d.; now the wages of a day-labourer, without victuals, are 1s. 10d.; of a carpenter, 2s.; and of a mason 2s. 6d. Comparing the fiars prices of grain, as struck at Forfar for crop 1833, with the prices of grain in 1792, it is found that wheat, barley, and oats, are as low-priced at present as they were forty years ago.

The general aspect of the parish, as well artificial as natural, has unquestionably been much improved within the last forty years. Many parts of it which were then wet have been drained; many wastes reclaimed, and at least 300 acres brought from a state of nature into a state of cultivation, while about 20 acres have been added to the plantations. Farming, in all its branches, is conducted upon the most approved principles, by a body of men who are generally enlightened practical farmers. Formerly, the rotations of cropping prescribed to the tenants were often found to be disadvantageous; but now the farmers enjoy a more liberal system of cropping, and are tied down by no rotations that are hurtful either to themselves or their farms. Formerly, flax, pease, and beans, were cultivated to great extent, but the first being found to be a scourging crop, and the two last to encourage foulness, have been almost completely laid aside. By adopting the system of alternate husbandry in corn crop, green crop, and grass, and by applying lime and marl, with a proportionate quantity of dung, the farmers have generally put the arable land in excellent condition. Hence there is not only a greater extent put under corn crop, green crop, and artificial grasses, but the same extent yields a produce very much superior, both in quantity and quality, to the produce of former times. Indeed, it may with safety be said that the produce of grain and green-crop is about double of what it was in 1792. Since that period, the progress of agriculture has been rapid. This rapidity has in no small degree been promoted by the introduction of some valuable machines, and by the adoption of new modes of growing and consuming turnips. Besides, the arrangement of the former enclosures has been greatly alter-

ed; many new fences have been erected, and the whole system of enclosing, so far as it goes, has been very much improved. Within these twenty years, the cottages and village-houses, many of which have a *but* and a *ben*, have in general been made comfortable to their inhabitants, and let at rents ranging from L. 1, 5s. to L. 2, 10s. per house and garden. Within the same period the farm-houses, with the offices thereto attached, have been generally put in excellent order, and are found to afford ample and commodious accommodation. Forty years ago, personal services were exacted and performed in the parish. Occupiers of a house and garden, or of a house and garden with one or two acres of land, performed some days work occasionally, as the proprietor might happen to require them in the course of the year. Such tenants as possessed ground sufficient to enable them to keep a horse, besides the above services, were bound to perform two horseback carriages in the course of the year, as far as Dundee, which is distant about twelve miles, or to a similar distance. Greater tenants were bound to convey a certain number of bolls of coals from Dundee to the proprietors' houses, which required two or three days' work of their men, horses, and carts. They were likewise bound to give a day's work of all their reapers, commonly called a *bonage*, for cutting down the proprietor's corns. Besides, they were bound to give annually so many spindles of yarn, so many poultry, called *kain*, and were restricted to particular meal-mills, where they were obliged to pay heavy multures, and to perform mill services. From these rigorous remains of feudal slavery, the inhabitants of the parish are now happily set at liberty.—About twenty years ago, females were chiefly employed in working the spinning-wheel: but this useful and congenial employment has now been completely stopped. On the introduction, however, of the spinning-mill, which banished from the parish at least 250 spinning-wheels, females betook themselves, some to the easier parts of agriculture, some to the yarn-mill, some to the spinning-mill, some to sewing and knitting, and some, especially the aged, to the filling of pirns, and not a few to the loom: and now they are better fed, and better clothed than they were in the days of the spinning-wheel.

Improvements recommended.—It would certainly be a great improvement to plough every field, as it comes periodically into a state of fallow or green crop, with a trench-plough, which, by penetrating the subsoil, would bring up a fresh mould that would

strengthen the soil, and render it more absorbent of rain, and more impervious to drought. Since the large drain between the Castle of Glammis and the Loch of Forfar, which was opened about sixty years ago, and which extends about 2 miles in length, has been recently deepened and widened, about 106 acres of meadow and mossy land, running parallel with the northern boundary of the parish, will be easily brought into a state of tillage,—20 acres of which have been drained and put under corn-crop this season. This will make a valuable acquisition to the arable land. Much still remains to be done also in the way of enclosing, and in thinning and pruning of plantations.—Although turnips and potatoes, of excellent quality, and in great abundance, are grown in the parish, yet there seems to be here, as well as in the county at large, a great desideratum in the mode of preserving them in good condition. On an average, one-tenth of the turnips may be said to be annually destroyed by frost; and potatoes, which, as an article of food, are so useful to the inhabitants of the island, become unpleasant and rather unwholesome food by the middle of the month of April. *

Obstacles to Improvement.—One of the great obstacles to the improvement of the husbandry and manufactures of the parish is its distance from a sea-port, Dundee being 12 miles distant. This distance, over a succession of hills and dales, occasions long and expensive carriages, accompanied with a great deal of tear and

* To these two great evils the following simple remedies might be applied with success. Those turnip fields which are designed for consumption by sheep should be consumed before the severity of winter sets in; and a great proportion of those that are designed to stand over the winter, for the benefit of young stock, milch-cows, and the feeding-byre, should be pulled in the beginning of winter, carted home, divested of their stems, piled up in a heap, and carefully thatched and roped. By these means they would be secured from the effects of frost, and preserved in good condition till the commencement of grazing.—With a view to prolong the season of potatoes, the following scheme is humbly proposed. Every potatoe-grower should select a dry rising ground, in which he should dig a pit 6 or 8 feet deep, 6 feet wide, and proportioned in length to the quantity to be stored; should face up the sides and ends with stone from top to bottom: should deposit the potatoes in it, cover it over with thin stone flags, and then lay over it a quantity of earth to the depth of four feet, for the purpose of excluding all air and rain from them, and, of course, for preventing their vegetation. In order that the owner of the depository may have a fresh supply of potatoes weekly, or at pleasure, a small stone-built and earthen-covered passage should be constructed at one of the ends of the depository, (the lower end being preferable,) and closely built up with turf at the outer end, for the purpose of excluding air from the depository. If a dry bank cannot be found for the construction of such a depository, an artificial mound of earth should be raised, and a depository constructed in it as above described. In whichsoever of these ways the depository may be constructed, it behoves to be made perfectly dry by means of an under drain. Such a depository may be somewhat expensive in the construction; but, when once constructed, it would serve the purpose in all time coming. By means of this simple scheme, potatoes might be preserved from sprouting, and the season of their freshness prolonged till they ushered in the new potatoes.

wear. With the exception of some parcels of oats sold to the home millers, the whole disposable grain of the parish is driven, partly to Arbroath, but chiefly to Dundee, whence all the coal, lime, foreign wood, salt, iron, flax, seeds, and groceries, which the parish requires, are transported with carts. These grievances would have been completely redressed, had the canal between Arbroath and Forfar, projected, surveyed, and estimated by the town-councils of these boroughs in 1817, been carried into execution. But this practicable and useful scheme of inland navigation was completely overruled, at a county-meeting, by a number of gentlemen who, with a view to promote the trade of Dundee, proposed the plan of the railway between Dundee and Newtyle, which is now open and in full operation. But, in consequence of its being opened towards the western extremity of the county, it is of no benefit whatever to this parish. Of this defect the trustees on that road are aware; and, with a view to supply it, are proposing to extend the railway through Strathmore to Glammis. But although this proposal were executed, the railway would still be of little benefit to the parish, because its circuitousness would render the road very long, and, consequently, would increase the rate of carriage so much, that there would be little difference between driving to and from Dundee with carts and the railway waggons. If, on the contrary, the canal above-mentioned, or a railway between Arbroath and Forfar, had been executed, they would, on account of their easy extension to Cupar-Angus, have afforded increased facilities of travelling, and have brought many commercial advantages to all the neighbouring districts.

January 1835.