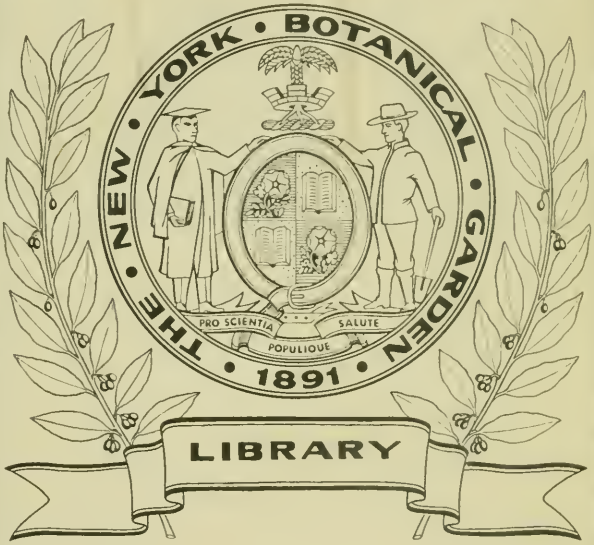

THE • NEW • YORK • BOTANICAL • GARDEN
PRO SCIENTIA ... SALUTE
POPULIQUE
1891
LIBRARY

CASTLEHILLS

THE BOTANY

OF THE

EASTERN BORDERS,

WITH

THE POPULAR NAMES AND USES OF THE PLANTS,
AND OF THE CUSTOMS AND BELIEFS WHICH
HAVE BEEN ASSOCIATED WITH THEM.

BY

GEORGE JOHNSTON, M.D. EDIN.,

FELLOW OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH:
AND LL.D. MARISCHAL COLLEGE, ABERDEEN, ETC.

LONDON:
JOHN VAN VOORST, PATERNOSTER ROW.
MDCCCLIII.

PRINTED BY TAYLOR AND FRANCIS,
RED LION COURT, FLEET STREET.

ALERE FLAMMAM.

TERRA LINDISFARNENSIS.

THE

NATURAL HISTORY

OF THE

EASTERN BORDERS,

BY

GEORGE JOHNSTON, M.D. Edin.,

LL.D. OF MARISCHAL COLLEGE, ABERDEEN: FELLOW OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH, ETC.

VOL. I.

The Botany.

LONDON:
JOHN VAN VOORST, PATERNOSTER ROW.
MDCCCLIII.

To the

Right Honourable

THE EARL OF HOME.

My Lord,

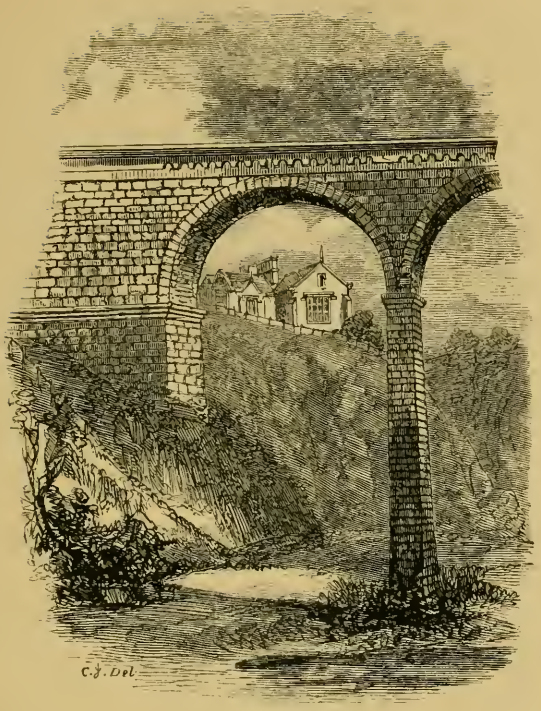
I am naturally led to dedicate this work to your Lordship from your position in the district which it attempts to illustrate, and from that respect which is due to the representative of its principal, and most ancient, family from every native Borderer. You will be pleased, therefore, to accept the work as a token of a respect which is acknowledged by us with cheerful willingness and honest pride.

I am, My Lord,

Your Lordship's most obedient servant,

THE AUTHOR.

Berwick-on-Tweed,
June 25th, 1853.



Having formed the resolution of writing a Natural History of the Eastern Borders, I had first to make an accurate, and, as far as was possible, a complete catalogue of their organic productions; and to determine the limits of the distribution of them, and their comparative abundance. I endeavoured then to ascertain by what names these creations were commonly known, for it seemed certain that such names must have been derived from some obvious character, or remarkable property, in the objects they designated; and, being framed in consonance with the early language spoken in the district, they might thus throw a faint light on the characteristics and descents of the people. Then I made inquiry as to those properties, which were soon discovered to be either mystical and superstitious, or real and potential. The former have become of none avail,—and are now the light materials of a small chapter in history, or the property

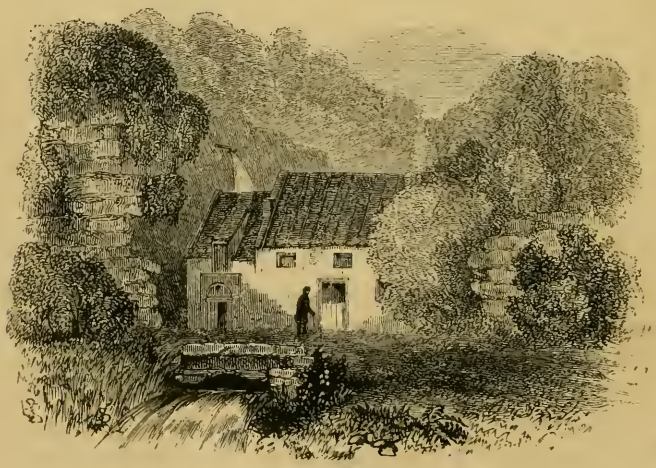
of children only, who live in remote haunts; the latter retain a certain faith in their efficacy, handed down in traditionary recitals and hereditary receipts that a peculiar race have preserved. The race constitutes our herbalists: the blacksmith in out-of-the-way places,—the herd in upland farms,—the skilful woman of the village,—the gipsey wife,—and the mugger who sells nostrums and fortunes with her wares. Their "simples" I have indicated; and it is possible that the virtue ascribed which descends from a very remote period,—from at least early monastic times,—may have a reality that merits regard. Burnt sponge was cast out of our Dispensatories, wherein it had been placed from the vulgar fame of an efficacy which Science discredited and ridiculed; but now a nicer science restores with honour, and confirms the medicine.—And then again I lent my pen willingly to record the sayings and the customs,—the little plays and incidents associated with these natural productions, and more especially with our plants, as they passed under review. I cannot put away childish things and memories, nor do I envy the man who can and doth. There is a tenacity in the love of our early years, and to the haunts of our childhood,—and in the retrospect of them,—which, to loosen and untie, would wound what would seem to be an inherent virtue of humanity; and which it doth us all good to nurture with genial warmth. Goëthe has said, with reference to some such opinion, that "plants and flowers of the commonest kind may form a charming diary for us, because nothing that calls back the remembrance of a happy moment can be insignificant; and even now," he adds, "it would be hard for me to destroy, as worthless, many things of the kind that have remained to me from different epochs, because they transport me immediately to those times which I remember with melancholy indeed, but not unwillingly."

Keeping these particulars in view, I have, however, yielded to almost every temptation that crossed my path; and I have strayed to cull a flower, or a weed, whenever it seemed to me that either would grace, or give variety to my collection, which has been thus rendered a miscellany of dubious and unstudied character. In particular, I have attempted to portray some features which the district derives from the grouping of its organic creations in

sketches of scenery which are as true to nature as an unskilled pen could draw them; and I have availed myself of more than one opportunity to develop the workings of our Naturalists' Club, in the success of which I could not fail to feel an interest. Were it not for the contributions I have received from the Members of that Club, my work could never have attained the perfectness which, as a catalogue, it possesses. And to its present zealous President, I am indebted for the interesting chapter on our Fossil Botany.

Should the reader find in such a volume nothing to refresh and nourish him,—meat fit only for babes and too tenuous for manhood,—I pray him not therefore to conclude that the subject is a profitless one. That cannot be. It doth not necessarily follow that there is no water in the well when the bucket is drawn up empty: there may be incapacity in the vessel, or awkwardness and want of skill in the drawer. And it may well be that the author has not read the leaves of the Book of Nature, which he has opened, aright, nor given them that interpretation and significance which a more thoughtful and minded head would have done. It is very true that I have been a scholar for many years in this book; and I have taught myself to take note of, and pleasure in, those works with which the Creator has crowded and adorned the paths I daily walk; and sure I am that now I can see and appreciate a beauty and excellence, where, otherwise, they would not have impressed me; —yet incapableness, or inaptitude in clothing one's own feelings and thoughts in fit and well-set words, may have hindered me perceiving what were the fittest and most apt, or losing them in defective and inefficient utterance. Let my weakness nor injure the subject, nor hinder the worthiest to examine for themselves. Niebuhr reckoned it among the most important results of his travels, that the indifference with which he was in the habit of regarding the objects of nature around him had given way; and any who will educate themselves to observe, will feel that Niebuhr made no error in the reckoning. The senses are not given to man with the limited powers they have in brutes. These have eyes, but they, in one sense, see not: whereas in us, the eye is, besides the visual organ, a sentinel and servant to watch, and go

forth, and bid welcome, the messengers which the Creator sends to man in the presence of his works; and to introduce these messengers into the inner chambers where the soul may hold fit converse and contemplation with them. Therefore, reader, do not go away repelled by the seeming littleness of what you may herein read,—make the subject of thyself greater and worthier,—for I would fain solicit thee to a pupilage that may teach you to walk hereafter in a field of pleasure and profit. It is very true that my book is not a book of useful knowledge, in the sense men interpret the useful,—that was far from my aim; but the knowledge that leads to habits of correct observation, and of classifying facts readily, is useful to all men, and more especially to men of my profession; and the studies that woo the spirit away from grossness, that keep the mind in life and action, and furnished with varied and ever-germinating matter of thought and illustration, is useful to all; and, as ours contemplate only the beautiful and the perfect, yet are full of emblematic teachings and moralities, they must ameliorate the man,—"at once adorning and relieving the toils and vexations of a busy life, and refining and exalting the enjoyments of a social one."



HORNCLIFF MILL.

EXPLANATION OF THE WOODCUTS.

1. The Vignette, on the title-page, represents the Seal of the Corporation of Berwick-upon-Tweed.
2. Page vii. A view of the Viaduct, and of Castle-vale cottage, from the stone seat on the Old Castle.
3. Page x. Horncliff Mill. From a sketch by Mr. Wm. Wilson. This woodcut is repeated on page 106.
4. Page 62. The leaf of Rubus corylifolius.
5. Page 64. The leaf of Rubus macrophyllus.
6. Page 67. *a*. A leaflet of Rubus rhamnifolius. *b*. Do. of R. cordifolius. *c*. Do. of R. mucronatus. *d*. Do. of R. carpinifolius.
7. Page 190. A view of the Old Mill and Cottage that stood in the ravine or "ditch" of the Old Castle. From a drawing by the late Rev. A. Baird. The picturesque buildings were removed when the present railway was made.
8. Page 223. Yetholm loch, taken from a view by the late Rev. A. Baird.
9. Page 270. A figure, reduced, of Agaricus plicatus.
10. Page 288. A figure, reduced, of Agaricus grammopodius.
11. Page 291. The Old Castle Mill.
12. Page 306. Sphenopteris Johnstoniana.
13. Page 307. Ditto ditto.
14. Page 308. Sphenopteris flabellata.

EXPLANATION OF THE PLATES.

The Frontispiece is a view of "Castle-hills," the seat of Miss Askew, taken from near the Grove.

The etching inserted to front page 221 is a group of trees, such as may be found in some of our woodiest and deepest deans, where children love to go a bird-nesting. For this very clever etching, I am indebted to the warm friendship of Mrs. Gatty of Ecclesfield.

Plate I. Fig. 1. Cerastium tetrandrum, from a specimen of average size. Fig. 2. One of the stem-leaves. Fig. 3. The flower. Fig. 4. The capsule and styles from a newly-blown flower. Fig. 5. The ripe capsule full of seeds. Fig. 6. The same, but at a more advanced stage. Fig. 7. A seed. Fig. 8. A separate petal.—These figures are all magnified more or less.

Plate II. Fig. 1. Hieracium murorum, var. α. Fig. 2. H. murorum, var. β. Fig. 3. H. murorum, var. γ. Fig. 4. Hieracium sylvaticum.

Plate III. Fig. 1. Hieracium sabaudum. Fig. 2. Hieracium strictum.

Plate IV. Fig. 1. Hieracium prenanthoides. Fig. 2. Hieracium umbellatum.—These figures of our Hieracia are reduced, but very exact, copies of specimens collected in the Eastern Borders; and may assist the student in ascertaining the species, as we understand them.

Plate V. Fig. 1. The seed of Tragopogon minor. [It is, by an error, major on the plate.] Fig. 2. The seed of Helminthia or Picris echioides. Fig. 3. The seed of Tussilago farfara. Figs. 4 & 5. The Scotch Thistle as represented on two coins of James V. Fig. 6. The germen and styles of Statice armeria.

Plate VI. Fig. 1. The floret of Tussilago petasites. Fig. 2. The seed of Centaurea cyanus. Fig. 3. The seed of Bidens cernua, misprinted cornua on the plate. Fig. 4. The filament of Anagallis tenella. Fig. 5. The flower of Callitriche verna.

Plate VII. A plan of Holy-Island. For this I am indebted to Mr. John Lowrey.

Plate VIII. A view of the engraved rock at the Routing Linn near Ford. See page 254. The drawing was made by Mr. D. Knight, and I am indebted for its use to the Rev. Wm. Greenfell.

Plate IX. Agaricus caperatus, from specimens sent to me by Miss Hunter.

Plate X. Fig. 1. Agaricus Belliæ, of the natural size. *a*. A longitudinal section of the pileus. *b*. A section of the stem. *c*. The spores. Fig. 2. Uredo or Ustilago hypodytes, natural size: *a*. In a very early stage when the mycelium is white with a curd-like consistence; *a* ×. From the base of the sheath of the grass, when extremely tender and pale; *b*. In maturity; *c*. Mature spores.

Plate XI. Fig. 1. Dothidea Johnstoni: *a*, asci; *b*, *b*, sporidia; *c*, hairs from surface. Fig. 2. Phlyctæna Johnstoni: *a*, spores and sporophores. Fig. 3. Peziza Johnstoni: *b*, cup seen from above with its inflected border; *c*, hairs of cubiculum strongly matted. Fig. 4. Stemonitis violacea, nat. size: *a*, a separate plant; the peridium growing from the tip of the leaf with which its stalk is confluent; *b*, peridium ruptured, showing the percurrent stem and the origin of the flocci; *c*, the flocci and spores.

Plate XII. Stigmaria ficoides. The compressed rootlets. See page 299.

Plate XIII. Fig. 1. Filicites striatus. Fig. 2. Lepidodendron oblongum. Fig. 3. Lep. fusiforme. Fig. 4. Filicites intercostatus. Fig. 5. Poacites nervosa. Fig. 6. Crinites lanceolata. Fig. 7. Carpolithes ovatus. Fig. 8. Coniferetes? verticillatus. Fig. 9. Bechera simplex.

THE

NATURAL HISTORY

OF

THE EASTERN BORDERS.

"Nescio qua natale solum dulcedine cunctos
Ducit, et immemores non sinet esse sui."

"Thou art my native land!"

"The green glens and woodlands,
And streams o' my ain countrie!"

THE Eastern Borders comprehend the whole of Berwickshire, the Liberties of Berwick, North Durham, and the immediately adjacent parts of Northumberland and Roxburghshire. Together they form a district of a nearly circular figure, about forty miles in diameter, and bounded by a tolerably distinct outline, which the eye can trace out from any commanding height within its area. Thus to the south, and on the verge of the sea, Bamborough Castle forms a conspicuous point, whence a ridge of basaltic hills runs westward to the Warn burn at the foot of the Spindlestone rocks*. The Warn leads us southwards, and through cultivated grounds, to the village of Warnford; and

* "The name appears to be derived from some insulated irregular columns which project from the mass." See an account of these rocks by Sir W. C. Trevelyan, Bart., in Wern. Mem. iv. p. 254.

thence up the romantic dean in front of Twizell House to the moors in which it has taken its origin. Descending from these heath-clad heights westerly, we reach the Till at its junction with the Roddam,—a burn which conducts us through corn and pasture lands partly, but chiefly through a deep and extensive ravine, into the recesses of the Cheviot hills. These constitute our extreme western boundary. They lead, in a beautiful series of rounded summits, to the hills above Yetholm in Roxburghshire. Thence the eye leaps easily from hill to hill until arrested by the peaked Eildons, which, in the distance, lapse almost insensibly into the Lammermuir range of less elevated heights, that continue our boundary-line to the sea in the parish of Cockburnspath. The sea bounds the whole district on the east*.

From the circularity and elevation of the boundary, the district, when viewed from a height, has the appearance of a basin painted within with designs of the most cultured beauty. Spread out beneath us, the bottom presents a seemingly extensive plain intersected by living hedges, partitioned into lozenge-shaped fields of every shade of green and yellow and brown, well-wooded in every part, and mellowed with the moving shadows of living trees, and bearing on its fruitful bosom all sorts of grain and herbage for man and beast. But a narrower survey, while it certifies that this is truly a land flowing with milk and honey, undeceives us as to the evenness of the surface. It is in fact a succession of elevated ridges and intermediate valleys, or, as Mr. Lowe expresses it, "the surface is waved into rising and falling ground." The ridges and valleys lie almost parallel to each other, and run from near N.W. to S.E.; but here and there hills rise up above them either from the plain itself, or pushed so far from the boundary as to appear almost separate from it. Such are Sunnyside Hill, the Kyloe Crags, and Rawse Castle; Halidon, Chirnside, and Hume Castle; Dunse and Cockburn Laws, the Dirrington, and the hills at St. Abb's and above Cockburnspath. And while the surface is in general under cultivation, and full

* The district is almost coequal with the ancient bishopric of Lindisfarne, the limits of which are thus defined by Leland:—"The boundary of Lindisferne bishopric extended from the Tweed (Tueda) to Warnmouth (Warnamuth), thence upward to the place where the Warn (aqua Warnea) has its rise near the Hibburdun hill, and from that hill to the river which is called Brunk, up to its source. Also that land beyond the Tweed, from the place where the Whitadder (flumen Edræ) rises on the north, to the place where it falls into the Tweed; the whole land which lies between the Whitadder, and another river which is called Leader (Leder) on the west; the whole land which lies east of the river called Leder, to that place where it falls into the Tweed on the south, and the land which pertains unto the monastery of St. Baldred (S. Balther), which is called Tiningham, from Lammermoor (Lambermore) to Estmouth (Eskmouth)."—See Carr's Hist. of Coldingham, p. 23. Hist. Berw. Nat. Club, iii. p. 17.

of productive virtue, there are many tracts of heath and of "morishe evill ground of litle valore,"—so many, and so dispersed, that few farms can be said to be without its parcel of waste land. Extensive muirs too occupy portions of the very centre, while the elevated boundary is clothed with heath, or with a green sward intermingled with heath, and having oases of ranker growth to freshen the prospect. The Tweed and its tributaries, glancing at rare intervals on the eye, meander through the basin, opening up valleys of various breadths and of great beauty; while haughs and deans and glens, each threaded by its own burn or runlet, are found everywhere, affording an endless series of haunts to the naturalist who may love to court their intricate and receding secrets. The district, as a whole, is as fair a one, to my partial eye, as ever gladdened the heart of man*.

Our district may be roughly estimated to contain about a thousand square miles, or about 700,000 acres, of which one half may be arable, while the other half is hill-pasture, moor, or waste. Mr. Blackadder, in 1809, distributed the lands of Berwickshire into the lowlands of the Merse containing 100,226 acres, the lowlands of Lauderdale 7280, the lowlands of Cockburnspath 2200, and the hill lands of Lauderdale and Lammermoor 175,734 acres†. The Liberties of Berwick contain about 4680 acres‡. North Durham with Glendale Ward in Northumberland, and what we embrace of Roxburghshire, viz. the parishes of Yetholm, Sprouston, Ednam, Stitchell, Kelso,

* Mr. Arthur Bruce says of the Merse:—"This whole tract of country, viewed from a central eminence, Langton Edge suppose, exhibits to the wondering eye a scene beyond description. The deception from this high elevation is so great, that this large tract, from near Kelso to Berwick, sixteen or eighteen miles, and nine over, appears a dead flat, chequered with numberless seats and plantations; the whole landscape assuming the appearance of a garden." Gen. View, p. 102. Burns describes the view from Langton Edge as "a glorious view," and it has local celebrity. Pennant praises that from Soutra Hill (Tour in Scotland, 1772, ii. p. 261); and the one from the heights above Chirnside is well described by the Rev. J. Edgar in Stat. Acc. Berwicks. p. 362. The views from Halidon, Sanson-Seal, and Hume Castle are justly admired. In 1566 Queen Mary was conducted to Halidon to gratify the wish she had expressed of enjoying, from its heights, a view of Berwick. Carr's Coldingham, p. 67. And from Berwick Castle, Sept. 29, 1850, Queen Victoria surveyed, with undisguised admiration, the noble prospect westwards.

† See the map of "Berwickshire from actual Survey, by John Blackadder," published Nov. 1, 1797. This admirable map is the basis of all subsequent ones, of which, perhaps, the best is that published in Sept. 1826, by Sharp, Greenwood and Fowler.

‡ There is a good map of the "Liberties," and of the annexed portions of the Borough of Berwick, in the Report to the Board of Health by Robert Rawlinson, Esq., 1850. We should also refer to the large "Map of Norham and Islandshire and the Liberties of Berwick-upon-Tweed," by Robert Rule, 1824.

Smailholm, and Makerston, are together about equal to Berwickshire; and the proportion of pastoral and waste to cultivated ground is apparently nearly the same. In 1794 Mr. Lowe estimated the acres under plantation in Berwickshire at about 3500. There are now probably not less than 10,000 in the entire district.

The soil is various and of every quality; and often so mixed as to make it impossible to distinguish the kinds by any very distinctive name; or, when purer, to mark out their extent and limits, for these are not bounded strictly by geological formations, nor dependent on the rocks underneath for their character. South of the Tweed, "a strong fertile clayey loam occupies the level tract of country along the coast, and reaches as far up in general as the great post-road. It is well adapted to the culture of wheat, pulse, clover, and grazing." Sandy, gravelly, and dry loam, or a turnip-soil, is found along Tweedside, in the western parts especially; and extensively in the vales of the Till and Bowmont. "The hills surrounding the Cheviot mountains are mostly a dry, sharp-pointed, gravelly loam." Moist loams, on a wet cold clayey bottom, are found throughout, but their nature is yearly ameliorated by the labour of man, and made tractable to every purpose of the agriculturist. Black peat-earth is the prevailing soil in the hilly region, and occurs also in many places scattered through the lower district,—marking the position of former morasses and lakes*.

Of the soils in Berwickshire the Rev. John Edgar writes:—"A great variety of soils exist in the county; some districts being remarkable for a stiff and stubborn clay, others for a mixture of clay and loam; a rich loamy soil characterizing one part of the county, while another is distinguished for a mixture of sand, gravel, and loam in various proportions; and on the same soil all these diversities are sometimes amalgamated. When it is considered that, not unfrequently on the same farm, all these varieties occur, and sometimes even on the same field; and that all these kinds of soil are modified by the character of the subsoil, which also exists in as great diversity,—to classify the varieties of the soil, or to ascertain with any degree of accuracy the extent to which these endless peculiarities prevail, would be almost if not altogether impossible. It may, in general terms, be observed that clay forms the discriminating character of the lands in the 'How of the Merse'; loam that part of the soil which skirts the chief rivers; while turnip-soil is found in those parts of the Merse where there is not too great a preponderance

* Bailey and Cully: View of the Agriculture of Northumberland. p. 4–5. 8vo, 1813.

of clay, and in the arable portion of the Lammermoor district. The lands on Tweedside, and along the banks of the Whitadder and Blackadder, generally consist of a fine deep loam, well fitted for raising luxuriant crops of almost every description, resting commonly on a gravelly subsoil, though sometimes on a tenacious clay. These tracts of land are the most valuable in the county, and have been long under a course of skilful management. In the intermediate tract betwixt these rivers the land is less valuable, and degenerates into a stiff and hard clay, difficult to work, and from resting on a subsoil of stiff till, liable to be saturated with moisture, and long retaining it when thus saturated. The remainder of the arable part consists of a sharp sandy and gravelly soil, well adapted for raising turnips, combined in different proportions with loam and clay, easily wrought, and varying in quality and value according to the nature of the subsoil on which it is incumbent. This species of land is highly valued, and those farms which contain a considerable proportion of turnip-soil are generally preferred by the tenantry. In the Agricultural Report of this county, published by the late John Home, Esq., W.S., upwards of thirty years ago, the proportions of the various kinds of soil are thus given:—Deep loam on the principal rivers, 25,410 acres; clay lands in the How of the Merse, 40,380; turnip-soil, 119,780; meadow, moss, and moor in Lauderdale and Lammermoor, 99,870*."

The water is as various as the soils through which it percolates, and from which it has borrowed its saline constituents. My friend Dr. R. D. Thomson found that the well-water at Eccles, with a specific gravity of 1·000792, contained 57·75 grs. of sulphate of lime, and 29·752 of common salt in the imperial gallon†. This may be an average specimen of the water of the How-of-the-Merse, but the springs which issue from the greywacke and syenitic hills contain doubtless less saline matter. There is a wide difference too between the hard water of the wells that

* Stat. Acc. Berwicks. p. 364. Penny Cyclopædia, art. Berwickshire. See also Home's Rectified Report, p. 12–13; Kerr's View of the Agriculture of the County of Berwick, p. 30–37; Milne on the Geology of Berwickshire, p. 248–251.—"Mr. Couling estimates the cultivated lands in Berwickshire—the arable lands, gardens, meadows, and pastures, at 160,000 acres; the uncultivated or waste lands capable of cultivation, at 100,000; and the unprofitable lands or surface occupied by roads, lakes, rivers, canals, rivulets, brooks, farm-yards, quarries, ponds, ditches, hedges, fences, cliffs, craggy declivities, stony places, barren spots, woods and plantations, &c., at 25,600 English statute acres. If we take this estimate, the area of the county in square miles is 446¼. The sea-coast of Berwickshire is about seventeen miles and a half in length, from the boundaries of the township of Berwick to its junction with East Lothian."—Penny Cyclopædia.

† Loudon's Mag. Nat. Hist. v. p. 646.

cannot be used in domestic economy, and the soft water of lakes and rivers that cleanses unaided; and we have besides many kinds of intermediate qualities, which chemistry does not descend to analyse*. Yet each variety exerts, probably, a peculiar influence over the vegetation which it nourishes, and, indirectly, over the distribution of the associated animals;—an influence which has been only imperfectly noted.

There are many mineral springs scattered over the district. At Spittal there is a chalybeate of sufficient tonic virtue, but defective in every accessory ornament to render that virtue useful†. There is an "exceeding cold" spring at Cornhill which was once resorted to by many invalids‡; but a more numerous company waited upon the Dunse Spaw, of which we have an account, in 1751, from Dr. Francis Home, a physician of deserved eminence. "The well is situated in a valley, which lyes a short mile on the south-side of Dunse§." It is an ordinary chalybeate water in which "the iron seems to be held in solution by carbonic acid; and, if any confidence can be placed in Dr. Home's trials, its strength is nearly the same as that of Tunbridge Wells." Very different has been their history. Tunbridge Wells maintain their character, while the Spaw at Dunse has lost its short-lived reputation, and to many, even in the neighbourhood, its exact site is unknown. The spring on Harelaw Moor, in the parish of Westruther, "which is perpetually boiling, and has never been known to freeze during the greatest intensity of winter," is of very similar quality to the Dunse Spaw, and repeats the story of popular favour and subsequent neglect‖. In the parish of Edrom near Allanton there is a mineral spring called the "Vertur" or Virtue-well¶; and our untravelled ancestors had doubtless another well

> "From which fast trickled forth a silver flood,
> Full of great virtues, and for med'cine good,"

near the onstead of Mungos' Wells, for a simple and credulous age would not wantonly dedicate to the patron saint of healing waters a spring without at least a reputed character of efficacy. These wells scarcely differ in composition from the chalybeate on the Leet in the parish of Eccles, which was furnished with a

* "The water of the Blackadder (though its colour is black) is exceedingly pure. The engineers appointed to equalize the weights and measures of the county found it nearly correspond to the weight of distilled water."—Stat. Acc. Berwicks. p. 41.

† Fuller's Hist. of Berwick, p. 476.

‡ Home on the Dunse Spaw, p. 173.

§ Dr. Home's work is entitled, "An Essay on the Contents and Virtues of Dunse-Spaw." Edin. 1751, 8vo.

‖ Stat. Acc. Berwicks. p. 65. ¶ Ibid. p. 267.

stone cover in 1780. "The supply of water," says Dr. R. D. Thomson, "is pretty copious. Its sp. gr. is 1·00237, and in summer the temperature is 48°. The solid contents are sulphate of lime, common salt, and a minute portion of iron held in solution by carbonic acid*." We have two saline springs with some local reputation. One issues from Hyde Hill in the town of Berwick†; and the other from a rock on the river-side in its immediate vicinity. The first has the power of curing bleared eyes; the other, if we can trust its votaries, who are not numerous, is good for every ill that flesh is heir to. It is called Conqueror's‡ or the Lady's Well, and has been analysed by Dr. R. D. Thomson, who states its composition to be as follows:—Specific gravity, 1·00915: one pint contains, common salt 45·534; muriate of lime 38·461; sulphate of lime 4·715; muriate of magnesia 0·450 = 89·160: or again, 1000 grains of it contains of common salt 6·746; muriate of lime 5·826; sulphate of lime 0·716; muriate of magnesia 0·086 = making of solid contents in the thousand, 13·374.

The climate of the district, "from its geographical position and its proximity to the North Sea, is colder and more subject to sudden variations of temperature than the more inland and southern parts of the island. The harvest is in general three weeks later than in the counties south of the Humber; but the weather, on the whole, is drier than in the western counties of Scotland or the north-west of England,—a very great advantage in an agricultural point of view. This is ascribed to the influence of two ranges of high land, the Cheviot Hills on the south, and the Lammermoor Hills on the north, which are connected by a range of lower hills on the west§." Winter comes to us sullen and sad, and is apt to encroach on the spring, blasting the infant foliage and blossom with its cold frosty weather and its northern gales. Severe black frosts are, however, not of frequent occurrence nor of long continuance;—change and moisture, and a cold felt more severely than the thermometer would appear to justify, are our winter's predominant qualities. And our springs are also in general cold, ungenial and uncertain‖; nor can we often complain of summer's heat or drought. Autumn, more especially the latter part of it, is our pleasantest season. Then we have frequently long tracts of

* Stat. Acc. Berwicks. p. 52. † Fuller's Hist. Berwick, p. 476.

‡ From a watch-maker of that surname, who was the first and most zealous patron of its medicinal power.

§ Penny Cyclopædia, art. Berwickshire.

‖ Hence the popular rhyme inculcates a useful lesson:

"Ne'er change a clout
Till May is out."

fine weather, marked, however, with characteristic variableness, so that a sultry day loaded with gossamer may lead on to even a sunnier with a sharp frosty piquancy in its breeze that quickens the walk and accelerates the flow of the spirits. The state of the weather, from an average of five years of the register kept at Eccles, is as follows:—120 rainy days, 12 snowy days, 39 frosty days, and 234 fair days, making the proportion of rainy to fair days as 1 to 2 nearly. The mean annual temperature of the atmosphere may be taken to be 48°* in our low lands; and about 44° in the range of the Lammermoor and Cheviot Hills†.

The Tweed divides the district into nearly equal halves. The sea-shore to the south of the river is flat and sandy, interrupted in some places by elevated banks of sandstone, in others by a muddy soil deposited by the rivulets which terminate in its bays or estuaries‡. It is bounded by a narrow strip of links formed of sand knolls fixed by means of bent and similar plants; and, although barren and almost waste in an agricultural view, these links are rich to the naturalist in flowers and insects of great beauty, and not of such commonness as to render them uninteresting. External to them, the country is flat and highly cultivated; but, at a distance of three miles or more, we reach the elevated moors that occupy a large space in the heart of this portion of our district. These moors are girded on the east by the basaltic ridge which, commencing at Bamborough, forms the hill and rocks at Spindlestone, the crags at Easington and above Belford, and the rocky ledges which are continued northwards thence to Kyloe and Lowlin,—a length of several miles. On the eastern side this ridge has a steep and rapid ascent, and its western front is abrupt and precipitous, scarred in several places with lofty columnar cliffs, and a copious loose debris at their base. The highest point is 570 feet above the level of the sea. Such a ridge, as may be anticipated, affords some interesting scenery, and is favourable to the growth of plants loving a shallow soil and an open airy position.

Westward of these heights the ground again rapidly declines to form the fertile plain through which the Till winds its sluggish

* Stat. Acc. Berwicks. p. 51. † Hist. Berw. Nat. Club, i. p. 195.

‡ "From Bamborough to the mouth of the Tweed is a sandy shore, narrowing as it approaches our sister kingdom. Lindesfarn, or the Holy Island, with its ruined cathedral and castle, lie remote from shore, accessible at every recess of tide, and possibly divided from Northumberland by the power of the waves in distant ages. The tides do not swell over this tract in the usual manner of apparent flowing and gradual approach, but ooze gently out of every part of the sand, which at first appears a quaggy extent, then, to the terror of the traveller, surrounds him with a shining plain of smooth unruffled water, reflecting the varied landscapes of the adjoining shores."—Pennant. Arctic Zoology, i. p. xv.

way. Of the plain we can obtain the most extensive views from any part of the high ground overlooking it from Ford to Doddington. Beyond the plain the Cheviots rise up to limit and enhance the charming prospect. They consist of a series, sometimes double, sometimes tripled, of rounded hills of every size and varied elevation, spotted with green and brown herbage and darker plantations, and up whose sloping sides cultured art has made many forward and irregular strides. The hills have each their name and story, and stand out generally well-defined by bays and vales, which run in about their bases, and up those passes through which the living waters force their passage to the valley beneath.

The principal of the Cheviot Hills are Cheviot itself, "great in her superfluous waste," and of the height of about 2680 feet*; Hedgehope, 2347 feet; East and West Homelheugh†; Percy-law; Mow-law; Cock-law; Wood Hill; The Curr; Shill; Trowburn Hill; the Black-hag; White-law; the three Tors; Yevering-Bell; Flodden‡; Thirlestane; Yetholm-law; Vensheon; Steroch; Coutsnouth, "a large and noble hill with a magnificent view therefrom;" and the Eildons, which are about 1364 feet high.

The waters of North Durham are inconsiderable. There is no lake, and only a few small lochs or ponds; and none of its drains rise beyond the class of a burn which seeks a silent and slow course to the sea in a channel cut deep in the rich soil. Such are the North and the South Lows or the Linden. These spread, however, a wide sheet of water and of mud at their mouths, and produce a fit locality for certain plants and animals that love a soft saline soil and brackish water.

In our limited portion of Northumberland, the Warn, the course of which has been already indicated, is the only burn on the east side. The Till runs from the south northwards, dividing this portion into an eastern and western half. When it enters upon us at Bewick§, the Till has become a river, and it holds on its way through the entire length of Millfield Plain, without, however, imparting an additional beauty. Its track is hidden

* Colonel Mudge makes the height of Cheviot 2658 feet. Objections have been taken to his measurement, and, from various authorities, it appears to be between 2684 and 2695 feet. See a paper on the subject by Sir Thomas Brisbane and Mr. Galbraith in the Edin. New Phil. Journ. xiv. p. 72.

† Or Holmedon, Homildon, Humbledon or Humbledown-hill, for thus variously is the name spelled. It is famous as overlooking the field of battle between Douglas and Hotspur in 1402. See Tytler's Hist. Scot. iii. p. 129; Borderer's Table Book, vii. p. 334; Pennant's Tour, 1772, ii. p. 283; Ridpath's Bord. Hist. p. 371. ‡ Ridpath's Bord. Hist. p. 488.

§ Until it reaches Bewick, the Till is called the Breamish or Beamish.

and serpentine, its banks flat and unadorned, its margin often miry and sedgy, its water drumly, its bottom treacherous, and its current still but strong, with streams at distant intervals. It borrows from nature, and as much from art, some picturesqueness and beauty at Etal,—a larger share at Heaton-mill; and admittedly it lends the prime attraction to the demesnes of Tillmouth and of Twizell. Its union with the Tweed is amidst charming scenery, for even when the former chides the sluggish pace of her tributary, the little ruffling scarcely dims the beauty that ever waits upon her course. A well-known rhyme characterizes the two rivers correctly:

"Tweed said to Till,
'What gars ye rin sae still?'
Till said to Tweed,
'Though ye rin wi' speed,
And I rin slaw,
Yet where ye drown ae man,
I drown twa!'"

The tributaries of the Till flow all from the Cheviots. The chief are Roddam-burn, Lill-burn, Wooler-water with its tributary the Coldgate-burn, the College and the Glen, and the water of Bowmont. These have all one character:—they are shallow, sparkling burns which haste murmuring over a stony bottom, now and then falling over linns and rapids, and occasionally lingering in some embayment, or at the foot of a precipice, to collect their waters in a deeper pool. They are all readily flooded by rains, and will then sometimes do great mischief to the haughs and meadow-pastures, tearing up and carrying away the soil they have overflown, or burying whole acres under a bed of unproductive sand and gravel*. The naturalist cannot so well examine the Cheviots as by tracing up these burns to their sources. They lead him at first through level grounds into rich valleys that narrow as he travels upwards; and they conduct him to secluded vales and green hills, and into deans filled yet with some remains of the once great forest of Cheviot. The College will guide him to the summit of the hill that gives name to the range, and through a deep and rugged ravine, named the Brizzle, which is the botanist's appropriate highway.

Our principal lochs lie in the west of this half of the district. Learmouth bog, one of our most interesting localities, almost touches the base of the lower Cheviots; and Pawston-lough lies amongst them. Not far distant, but in Roxburghshire, we have Yetholm, Hoselaw, and Linton loughs,—each with its peculiar attractions. Yetholm or Primside lough is a sheet of water

* Stat. Acc. Roxburghshire, p. 160. These rain-born torrents are called Spates.

nearly a mile and a half in circumference*. Hoselaw covers thirty acres, has an oblong form, and is three-quarters of a mile in circumference; its greatest depth does not exceed fifteen feet, and it is terminated on the west by a moss of great extent†. Linton is "nearly circular in form, and contains fifty acres; it occupies a natural basin formed by hills of considerable height, surrounding it on the north, east and south, and cultivated almost to their summits. Towards the west it opens into the valley of the Kale, into which, by a copious stream, it discharges its waters. The whole of the surface of these fifty acres was formerly covered with water; it is now partially drained, and it exhibits the appearance of a verdant morass, interspersed with three or four pools of water, in which are found excellent trout, closely resembling those of Lochleven‡."

The coast to the north of the Tweed offers a striking contrast to the southern coast. The aspect is at the offset comparatively tame, but within two or three miles its bold character begins to be developed, and it opens on us with rough and grander features as we trace it northwards§. It is a fit dyke to the sea of blue and wild waters that roll everlastingly in front, hemming the troubled waves and casting them back in foam even when roused by the storm to madness. Twice daily these waves touch their dyke, and twice daily recede far within it, leaving a strip of black rocks that afford ground for the growth of an abundant crop of sea-weed; and food and shelter for innumerable rock-fish, shell-fish, worms, mollusks and zoophytes.

Nor less interesting is the sea-board to this rocky shore. It is a precipitous wall from 40 to fully 400 feet in height, sinuous and uneven, now bending to circumscribe a bay, and anon rising into the lofty headland. The face of it is in some places of sandstone, and then it is comparatively smooth; but, to a greater extent, it is black and rough, excavated in many places with caves and darksome recesses, and, in many others, fronted with blocks and buttresses of isolated rocks. In describing the parish of Cockburnspath||, the late Rev. A. Baird has given a sketch, which, with little change, is applicable to the entire Berwickshire coast. He writes—

"Along this bold sea-line occur some very interesting and striking pieces of coast scenery. Of these, one of the most pic-

* Stat. Acc. Roxburghshire, p. 160. † Ibid. p. 148. ‡ Ibid. p. 146.

§ "From the boundaries of the township of Berwick on the south the coast trends N.N.W. for eight miles and a half to St. Ebb's or St. Abb's Head, where it takes a W.N.W. direction for nine miles, until it is met by the boundaries of East Lothian."—Kerr's View of Berwickshire, p. 2.

|| Sometimes written Coldbrandspethe, and always pronounced Coppersmith, or Cobberspith.

turesque is the Cove, a little bay surrounded by precipices of above 100 feet in height, and which, by the building of a breakwater, &c., has recently been converted into a pretty little harbour for the protection of fishing-boats. So perfectly secluded is this little bay, and so unexpected is the scene which almost instantaneously opens to the view, that it uniformly produces on the mind of the stranger an almost electrical effect of surprise and admiration. A remarkably fine insulated cliff, perforated in the centre by the action of the waves, and another lofty and magnificent rock, bearing at a short distance so close a resemblance to an ancient tower or cathedral, as to be very easily mistaken for such in ruins, add greatly to the effect of the other objects; while the extent of ocean beyond, the vessels of every size and description entering or leaving the Frith of Forth, and the bold headlands along the coast, complete a scene of remarkable beauty. Several natural excavations round this little bay have probably given to it the name of the Cove. These have partly been taken advantage of to form a range of cellars in the rocks, and also a road or tunnel of about 60 yards in length, through one of the rocky sides of the bay, affording at high water the only means of access to the shore.

"Various other very interesting coast scenes might be described, especially in the neighbourhood of Redheugh, in the eastern part of the parish; and at a spot named the Siccar Point, which may now be said to be almost classic ground..... It is a lofty cape or headland running abruptly into the sea, at the base of which, by a good deal of scrambling, we arrive at a remarkably fine cavern of considerable height and extent, the roof being covered with very beautiful calcareous stalactitic incrustations, and the entrance being guarded by ranges of cliffs and isolated rocks, producing at high water, and especially when the wind has been for some days in the sea, a very splendid effect. Both the natural and scientific beauties of this place, Sir John Hall, Bart., the proprietor, has lately rendered more accessible to strangers, by means of a winding footpath along the sides of the steep sea-bank*."

Within and parallel to this sea-board, and often separated from it by a strip of rich alluvial land, there is a broad ridge of very unequal ground extended from Halidon Hill, in the Liberties of Berwick, to St. Helen's above the Pease-dene. The greater portion of this ridge is under cultivation, but Lamberton Moor, and the more extensive moor of Coldingham, retain still some portion of their original wildness and barrenness. The Lammermoor Hills may be considered as a continuation of this eastern ridge prolonged from St. Abb's in a westerly direction;

* Stat. Acc. Berwickshire, p. 291–2.

and the range thus girds in and defines the plain beneath them, called from its comparative levelness the How-of-the-Merse. The hilly border is "intersected by many narrow vales in various directions, chiefly tending towards the south, in which most of the streamlets flow; though the rivers of the vale-land principally run from west towards the east. From the main range of hills, various spurs jut out towards the south; and there are several detached or isolated hills in different places of the vale of the Merse. And even that vale is much diversified by numerous swells and knolls, and winding deep dells, in which last the streamlets of the lower country flow in search of the larger waters and rivers. The northern sides of the Lammermoor Hills are of considerable steepness, but belong to East Lothian; while the southern slopes are generally moderate, and blend gradually into the lower vale. In many places the tops of the hills form extensive elevated table-lands, which slope almost insensibly towards the south into the lower vales. The higher land is usually miserably bare infertile moor; while the slopes, called the moor edges, are mostly useful land, and sometimes of excellent quality*."

The principal hills, with their elevations, are named in the following table constructed from various authorities:—

	Feet.		Feet.
Criblaw	1650	Soutra-hill	1000
Spartleton-hill	1615	Hume Castle	898
Hertside-hill	1552	Buncle-edge	700
Clint-hill	1549	Stitchel	680
Lammerlaw	1500	Lamberton	660
Sayerslaw	1500	Wardlaw, Coldingham	640
Tippet-knowes	1325	Dunse-law	630
Mainslaughter-hill	1260	Halidon	535
Dirrington-law	1145	Grant's-house	366
Boonhill	1090	Blaiky's-point, Eyemouth	350
Cockburn-law	1049	Eccles Manse	315

The denes† and ravines are, as we have mentioned, very numerous, and several of them possess so much beauty and seclusion that they become charming haunts for a naturalist on a summer's day. Foremost in rank is Dunglass-dene, the

* Edin. Encyclopædia, iii. p. 487. Mr. Kerr conjectures that these hills have got their name "from the lambs of the low country having been anciently sent to that moor, when taken from their mothers." View, p. 15. Certainly Mr. Kerr's forte was not etymology.

† In our Dictionaries the word is usually spelled Den, but Mr. Carr, who aptly defines it as a "sylvan ravine," makes it Dene. Trans. Tyneside Nat. Club, ii. p. 101. In books relating to Berwickshire, the authors always spell the word Dean, and so it is invariably pronounced. I have sometimes used one and sometimes the other orthography.

northern limit of our district. It is about two miles in length, and presents "throughout this distance a succession of scenes the most beautiful which can be imagined." Other denes of note are Heriot's or the Tower-dene, Edmond's-dene, Pease-dene and its branches, Howpark-dene, Dulaw-dene, Ayton, Ridpath-dene, &c. Dulaw-dene, although only about half a mile in length, with a narrow bottom and very steep rugged sides, is botanically rich; nor can the searcher for these riches fail to have awe and solemn thoughts for his companions. Of the Pease-dene we have a graphic description from Patten in 1548:—"We marched an viii. mile till we came to a place called the Peaths. It is a valley running from a vi. mile west; straight eastward and toward the sea, a xx. skore broad from bank to bank above, and a v. skore in the bottom, wherein runs a little river; so steep be these banks on either side, and deep of the bottom, that who goeth straight down shall be in danger of tumbling; and the comer up so sure of puffing and pain; for remedy whereof the travellers that way have used to pass it, not by going directly, but by paths and footways leading slopewise, from the number of which paths, they call it (somewhat nicely indeed) the Peaths*." Much of this character remains to the dene, but its sides have been copiously planted with alien wood, and a romantic bridge saves the traveller his puffing and pain when he would cross the steep ravine†.

Of still waters Coldingham Loch is the only one of any extent in Berwickshire. It lies in a basin amidst the high grounds above Erne's-cleugh in the parish of Coldingham, and is remarkable for its proximity to the sea. It covers about thirty acres, and, being clean and clear, imparts a lively feature to the bleak tract by which it is encompassed. There is a considerable loch at Dunse Castle, and a lesser one at the Hirsell, but both of them owe much of their character to art. Lochtillum, in the parish of Eccles, has been once of great extent, and now it appears to be rapidly diminishing, and will before long probably disappear. Two small lochs in the parish of Stitchel may have a longer permanency; but of those numerous smaller ponds without a name which meet us unawares on many a farm, there will soon be merely the residue that may be required for agricultural

* Carr's Hist. Coldingham, p. 103; Ridpath's Bord. Hist. p. 560; Kerr's View, p. 112.

† "The depth of this ravine is, on an average, for about two miles of its course, 150 feet. During the lower half of its course, and, in particular, for some hundred yards below the Pease Bridge, the sides of the ravine are nearly perpendicular, and not more than fifty feet, in some places only twenty apart."—Milne, Geology of Berwickshire, in Quart. Journ. of Agriculture, vol. vi. p. 182.

uses. The game of the naturalist will disappear with them, or be replaced by species of considerably minor interest.

"The principal rivers are the Tweed, Whiteadder, Blackadder, and Leader. The smaller streams are the Eye, Dye, Ale and Leet, besides a great number of burns that cannot be particularized*." The pleasantest method of examining the county is for the naturalist to follow these rivers and burns throughout their devious courses.

The Tweed enters our district below Melrose, when it has already become a large river. From the stony character of its channel, and the quick pace of its pure water, the Tweed is not favourable for the production of a profusion of aquatic animals or plants, but very favourable for the breeding of fish of the salmon kind. It rolls on from Melrose, washes the base of the Cowden-knowes,

"and, gently gliding round
The broom-clad skirts of that fair spot of ground,"

reaches the Abbey of Dryburgh, where it makes a turn upon itself, as if "loath to leave the sweet domain†." Then hastening, the waters hurry with confused speed over the Trows at Makerston‡, to reach the beautiful policy of the Fleurs, which is passed "with a soft yet trotting stream." And so, enlarged by union with the Teviot, the river passes Kelso, which it clips "with a close embrace;" traverses a sunny haugh which leads successively to Sprouston, to Wark-castle, to Birgham-haugh, to Lees and to Coldstream; and thence still onwards to Lennel and its braes, to Tillmouth, to Milne-Graden, around the demesne of Ladykirk, and, with another bend, thence to Norham and its proud castle, to Horncliff and to Paxton, where the current begins to lag and sicken from the mixture of a less pure water which the sea forces upon it reluctant with every tide. The places the Tweed has passed in its serpentine tract are all of them places of note in border history, and worthy each to furnish a

* In the language of the district, the Tweed, Till and the Glen are rivers; the Whiteadder, Blackadder, the Leader and the Eye are waters; the streams that drain and gladden our denes are burns; and the leaders to these burns are, in some places, called sykes.

† This, a good authority assures us, is the most beautiful part of the Tweed. Sir Thomas Dick Lauder in Tait's Magazine, Oct. 1847, p. 658. See also Pennant's Tour, 1772, ii. p. 270.

‡ "As you approach the place of Mackerston, the immediate bed of the stream becomes much diversified by rocks, both on its side and in its channel. This, perhaps, is the only stretch of the river that would, in any way, recall those wild and iron-bound streams, with which those who have lived in the north may have become familiar. The river hurries very rapidly along, confined between walls of rock; and in some places its current may be said to be furious."—Tait's Magazine, Oct. 1847, p. 659.

memorial specimen to the local botanist's herbarium*; nor as it approaches its goal does the Tweed lose historical associations, albeit the beauty of its banks wanes under the influences which affect a tidal river. Leaving Paxton it enters within English ground, level and unattractive on the north, but with a considerable bank on the south side, which is partially wooded. Here it receives the Whitcadder, when making a reach northwards, the stream bends back again so as almost to describe two-thirds of a circle, and thus washes the walls of "our good town" of Berwick, and enters the sea†.

The Leader loses itself in the Tweed where the latter enters our demesne and forms a considerable portion of our north-west boundary-line. It has its rise in the Lammermoor Hills, and runs in a lively stream through a cheerful valley, to which it gives the name of Lauderdale. Pennant describes it as "a long narrow bottom, uninclosed and destitute of wood, but abundant in corn‡." This was in 1772, when its comparative fertility was almost proverbial:

> "Then Flora, queen, with mantle green,
> Casts off her former sorrow,
> And vows to dwell with Ceres' sel',
> On Leader-Haughs and Yarrow."

"The two farms of Blainslee have been for generations so celebrated for the oats grown upon them, that their produce is entirely sold for seed§." Leader-haughs are as fertile as ever, but they have lost much of their pastoral character, and, perhaps, scarcely support their ballad fame. "They are everywhere enclosed, and an immense extent of plantation has taken place in various parts of the valley, so that there is no want of shade along the banks and slopes, and several handsome residences have arisen. Of these, perhaps, the house and grounds of Carolside may be pre-eminently mentioned." Above Carolside is Birkhillside and Chapple; and a little way below it the village of Earlston,—the birth-place of Thomas the Rhymer, whose rude tower of residence still stands on a beautiful haugh on the east side of the Leader, half-way between the river and the town. A very little lower,

* Pennant gives short but interesting notices of them in his Tour of 1772, ii. p. 273–285.

† Camden's description of the Tweed's course is short and curious:—"This river rises with a copious stream out of the Scottish mountains, and for a long time meanders among the horsemen and marauders on the borders, to give no harsher name to a set of men, whose only property is, as one says, in their swords."—Gough's edit. iii. p. 497.

‡ Tour, ii. p. 261.

§ Sir Thomas Dick Lauder on Scottish Rivers, in Tait's Magazine, Oct. 1847, p. 653–656.

on the left bank of the stream, we have "one of the most classical and far-famed spots in Scotland—the hill of Cowdenknowes. Of itself it is a very pretty striking hill, starting forward from the adjacent eminences, so as to be prominent in the scene, and rising in a picturesque conical shape. No traveller, however incurious, could possibly pass up or down the valley without putting questions about it."

The next tributary to the Tweed in our district is the Eden, which Sir Thomas Dick Lauder calls a "classic stream." Its source lies in some boggy ground in the parish of Gordon, and its upper portion has a very ditch-like character. The channel, however, has received a sufficiency of water when it enters upon the policy of Newton-Don to make it ornamental there; and in these grounds "it produces a pretty little romantic scene, by throwing itself over a precipitous rock of considerable height. The spot is called Stitchell Linn." This is a good locality for the naturalist, and we shall have future occasion to mention it in connection with one of the most melancholy incidents in Border story. From the Linn the Eden runs a gentle race through a vale beautifully wooded and cultivated, "and resembling some of our happiest English scenes." In about the middle of it is situated the peaceful village of Ednam*, the birth-place of the author of the "Seasons," and whence the father of Cook, the voyager, migrated southwards to give England the honour of his name.

The Leet belongs entirely to the Merse, and its sluggish pace and muddy channel prove at once the levelness of the country it drains and the depth of the alluvial soil. Originating in some boggy ground near Hilton, it pursues its way westward, skirting the demesnes of the ancient family of Swinton; and then, bending southward, it gives a name to Leitholm, when it seeks to hide its stream, choked with sedges, in the plantations of Belchester and of the Hirsell. Mr. Stoddart has given an excellent description of the Leet. "During the summer season," he says, "it is a mere ditch; in many places not above four or five span in width, and, where broadest, still capable of being leapt across. The run of water is, comparatively speaking, insignificant, not equaling in the average a cubic foot. This, however, as it proceeds, is every now and then expanded over a considerable surface, and forms a pool of some depth; in fact, the whole stream from head to foot, pursuing as it does a winding course for upwards of twelve miles, is a continued chain of pools, fringed during the summer on both sides with rushes and

* The "Aednaham" of the olden time, and "a waste" in the 12th century. There is now no remnant of the church built there and then in honour of St. Cuthbert. See Quart. Rev. lxxxv. p. 118.

water-flags, and choked up in many parts with pickerel weed and other aquatic plants. The channel of Leet contains shell-marl, and its banks being hollowed out beneath, afford, independent of occasional stones and tree-roots, excellent shelter for trout. Not many years ago, the whole course of it was infested with pike, but the visit of some otters, irrespective of the angler's art, has completely cleared them out, and thus allowed the trout, which were formerly scarce, to become more numerous*."

But the Tweed's most considerable tributary from the north is the Whiteadder,—a river to my liking superior to her more celebrated sister in all but magnitude and force. I love better its haughs, its sunny upland valleys, its steep banks, its many cheerful picturesque mills, its trouting streams, its sinuous reaches near home, and its far-away meanders amidst the green hills. In the very heart of the Lammermuirs, about three miles beyond our extreme limit, and on the sunny side of a green brae, there is a "White-well," supposed to be 1150 feet above the medium sea-level†, whence bubbles to light a perennial spring whose copious waters fall into an extensive bog below. Drained by numerous fissures this water oozes from the bog into a stony channel which leads it southwards down the narrow vale, in which it receives many little livelier runlets that brattle down the green hills on each side. Thus before the Whiteadder has flown three miles to Millknowe, a man would strain to leap its current. There it meets the Fasney burn, and doubled by the union, it hies its way down the valley for nearly two miles before it enters Berwickshire. It has now become a fine water flowing, always in an east and southerly direction, and in a most sinuous tract, over a rough stony bottom, mostly in streams, but with frequent still reaches and occasional deep dark pools. This is the character of the water everywhere; and the valley which it enlivens is open and sunny, widening and contracting at unequal intervals, for now the base of the pastoral hills will almost touch the stream, and then a level haugh will intervene to separate them alternately on the right side and the left. In the upper parts of the water there is little wood, none indeed but a hanging birch cover which overlooks the entrance into Berwickshire; for the hills have been deprived of their forest by the flocks which now graze them in the security of peace. Having received into its channel the lively Bothell, which drains a parallel ridge of the Lammermuirs to the east of that drained by the Whiteadder, the latter turns abruptly southwards, passes the Craneshaws, and ripples down a vale cultivated for the growth of oats and barley and bordered with green sloping hills. Then the Dye, coming from the west, gives the main

* Angler's Companion, p. 22. † Stat. Acc. Berwicks. p. 267.

river additional strength; and thus it leaves Ellem-ford with a broader and heavier stream guided eastwards for a space by very steep heath-clad banks. It glides on and soon overtakes the pretty vale of Abbey St. Bathans. Monnienut burn joins here, racing down a narrow glen in which Godscroft stands; and a little lower down, the Whiteadder receives another burn which rushes from the ravine in whose shelter Mattie Pringle was wont to hang out her hospitable sign*. There is here some aboriginal wood and a good deal of recent plantation, which the river leaves on passing the Retreat, when it winds around the base of Cockburnlaw almost in a circle. It has now attained the culminating point of attraction to the angler, and there is no finer water anywhere. The river flows on, washing the base of the sandstone fossiliferous bank at Preston-bridge,—lightening up the rich valley of Preston-haugh,—lending beauty to the open demesnes of Broomhouse, and to the sylvan and cereal grounds of Blanerne; and thence onwards, with its customary curves and beauty, to the romantic scenery at and about Chirnside-bridge. Another wide sweep, directed by the steep banks on the north, brings the river to Allanton, where it receives the tribute of the Blackadder. Now a noble stream, the Whiteadder meanders, at a moderated pace, through the sunny haughs of Whitehall; and thence, for several miles, it winds with wide sweeps, alternately from right to left, until it has passed the overhanging cliffs on which the ancient castle of Edrington did stand. This portion of the river is excellent in beauty, and is a series of lovely pictures, each well-defined by the peculiar sinuous character of the channel. From Edrington the Whiteadder proceeds slowly to Newmills, where, turning to the south, it waters a vale without much interest, and soon afterwards mingles with the Tweed. The tide influences the flow of the stream for upwards of a mile.

The Blackadder takes its rise at Wedderlie in the parish of Westruther, at an elevation of about 1130 feet. The dark tincture of its water is derived from the peat-mosses in which its sources are placed. It flows in a south-easterly direction, and as it descends along the skirt of Harelaw moor, meanders through a rich meadow which promises well to the naturalist. In its future course the Blackadder skirts the plantations that shroud Marchmont-house,—traverses the policies of Kimmerghame and of Kelloe, and winds in the midst of the grounds of Blackadder and Allanton as if loath to leave them. The fall of the river is inconsiderable, and its bed is one of coarse gravel and large

* There is a tolerably accurate description of this secluded inn in Mr. Maxwell's Border Tales, p. 28. Lond. 1852.

stones, confined by banks which rarely rise above a few feet, and are ploughed or grazed to the very brink*.

These waters drain the west:—the Eye and Ale are the principal leaders to the drainage of the eastern parts of Berwickshire†. The latter is an inconsiderable stream running south-easterly from the Press in the parish of Coldingham, to Millbank near Eyemouth, where it falls into the Eye at a romantic spot distinguished by a remarkable elevation called the Kip-rock‡. The Eye hides its source in the Lammermuirs, and it flows on, in a south-easterly direction, for ten or twelve miles, when it turns nearly at right angles on its entrance into the vale of Ayton, which leads its waters to the sea. The early course of this water is bare and uninteresting, but from Grant's-house downwards there is considerable beauty, and so much natural wood of varied character as to render the banks fruitful of those herbs which the botanist loves to cull§. The valley of Ayton is more beautiful—indeed it may vie with any we have in the district for richness and variety of scenery, nor could we affirm the judge was partial that awarded it the superiority. It is worthy of the fine castle that now overlooks it from very near the site whereupon stood the Bastle of rude and dangerous days.

This hurried sketch of the Eastern Borders will have failed in its object, if it has not satisfied the naturalist that the district is peculiarly favourable to his researches,—well-adapted to furnish him with subjects for a practical study of the different classes of organized beings, and wherein he may fit himself to judge and determine upon the various theories which have been propounded relative to their classification, their relations, their linear or dichotomous development, or their reticular or quincuncial reunions; and how far there is that strict connection which is asserted to exist between complexity of structure and the number and perfection of their faculties and instincts. It was in part to test these theories, which have been supposed to be of considerable importance in physiology, that the materials of this volume were collected; but certainly I was more bound to the task by natural predilection, and by an inborn love which urged

* Stat. Acc. Berwicks. pp. 66, 224.

† Kerr's View, p. 44.

‡ Stat. Acc. Berwicks. p. 131.

§ The post-road runs parallel to the water from Ayton to Grant's-house. Starting from Ayton, Cobbett says, "When we get farther on the land gets poor and hilly; the road twists about among the hills and follows (towards its source) a little run of water, on the sides of which are some narrow meadows. The hills are here covered with scrubby woods, very much like those in the poorest parts of Hampshire and Dorsetshire."—Tour in Scotland, p. 87.

me on to illustrate and declare the riches of my native county*.—"Trahit sua quemque voluptas." I felt that in following out my plan to register every tree and grass and weed therein,—to know every insect, worm, fish, reptile, bird and beast that were its denizens,—I could not fail, at the same time, to discover its many pastoral,—its many sylvan,—its many landscape beauties which lie hid amidst its hills and denes, and hard by its waters. And there was the additional attraction of visiting spots which have been made for ever eloquent by the events of which they are the monuments, for the district is indeed rife with places that derive interest from historical recollections,—with everlasting hills whence arose the smoke of druidical sacrifices,—with rills whence was lifted the water of the baptism of the first converts to our Christianity,—with cairns, camps, and seats of regal and lordly power,—with ancient priories and cells and abbeys that are still our admiration,—with battle-fields of note,—with strong castles and towers and bastles,—with fairy traditions and love passages,—with much poetry and romance,—and with the birth-places of men who have risen above common humanity. I have indicated by short notices many of these memorabilia as I have gone on in my register, for specimens collected from them are to be treasured not more for their own peculiar value than for the reminiscences and thoughts which the spot gives life to. "A plant," to use the words of Sir James Edward Smith, "gathered in a celebrated or delightful spot, is, like the hair of a friend, more dear to memory than even a portrait, because it excites the imagination, without presuming to fill it."

"Thanks be to Nature, some green spots remain
Free from the tread and stain of that gross world
Whose god is commerce, and religion gain—
Its altars furnaces, whose smoke is curled
Around the very clouds!—Be praise agen
To Nature and her God! while some are whirled
The dizzy round of joy, and some turn churled
Or fevered from life's game,—to balm the pain
Of a stung heart—still the self-troubled brain—
Refine the mind—silence, if not appease,
Pale recollections, memory's agonies,
And throw the load of anxious cares behind,
There still are flowery meadows, pathless woods,
Groves, hills and vales, forests and solitudes!"—C. Webbe.

---

* "We are the better as well as the happier for local attachment."—Southey. Life, ii. p. 182.

JOHNSON. "Make a large Book; a folio."
BOSWELL. "But of what use will it be, Sir?"
JOHNSON. "Never mind the use: do it."

"It is my duty to study, and, if possible, to devise expedients for restoring me from this useless and melancholy state. Now, all experience assures me that regular occupation is that expedient; and it is my duty, if I find myself unequal to the severity of my usual exercises, to devise slighter subjects of employment which can be resorted to in the time of necessity. This I esteem to be an important part of moral discipline."—CHALMERS. Life, i. p. 165.

THE

NATURAL HISTORY

OF

THE EASTERN BORDERS.

THE FLORA.

"Ye field flowers! the gardens eclipse you, 'tis true,
Yet, wildings of Nature, I doat upon you,
For ye waft me to summers of old,
When the earth teem'd around me with fairy delight,
And when daisies and buttercups gladden'd my sight,
Like treasures of silver and gold."

T. CAMPBELL.

"What beauties does Flora disclose!
How sweet are her smiles upon Tweed!"

CRAUFORD.

"For bothe Flora and Zephyrus,
They two that makin flouris growe,
Had made ther dwelling there, I trowe."

CHAUCER.

THE names of the Plants indigenous to the district are printed in ROMAN LETTERS; of naturalized species in *italics*; and of plants cultivated for their utility in fields and plantations, the name is in the **Antique letter.** Stragglers of uncertain permanency, and notices of extirpated species, are printed in a smaller character and thrown into notes. To each of these classes there is besides a distinct set of numerals. Some species which have been introduced into former catalogues of our Flora, from inadvertency or error, are omitted without notice.

To the "Habitats" in Berwickshire and in the Liberties of Berwick a B. is prefixed; a D. to those in North Durham; an N. to those in Northumberland; and an R. to those in the county of Roxburgh.—When no authority is given for the "habitat," it is to be understood that the plant has been gathered there at a meeting of the Berwickshire Naturalists' Club. In many instances the authority for the station is given, although the Club may have subsequently verified the discovery.

The scientific nomenclature of the species is derived from the "English Flora" of Sir James E. Smith. When they differ, the names used in Mr. Babington's Manual and in the "British Flora," as edited by Professor Arnott, are also given.

The provincial names of the Plants are printed in the **Old English** or **Black letter.** Great pains have been taken to collect these, which, it must be borne in mind, are often known to a few of the most observant only. They are sometimes too very local even in our limited district.

The notices of the vulgar customs, virtues and uses connected with the plants, are also provincial, except when the contrary is stated. These notices have been derived principally from the communications of Mr. James Hardy, whose assistance in every part of this work I am anxious to acknowledge.

A FLORA

OF

THE EASTERN BORDERS.

Then Mother Flora, to prepare the way,
Makes all the field look glorious, green, and gay;
And freely scatters with a bounteous hand
Her sweetest, fairest Flowers o'er the land.

Lucretius, s. Creech.

Sit mihi floribus
Mulcere me fessum, senemque
Carpere quos juvenis solebam.

Lord Tenterden.

DICOTYLEDONES.

1. Thalictrum minus.—B. In Dulaw dene, and on the banks between it and Redheugh. Sea-coast at Cockburnspath. In the dene between Ayton and Netherbyres; and on the banks of Alewater near its termination.—D. Tweed-banks opposite Spring-gardens: Spittal links; and banks beyond Hudshead.—N. Abundantly on Kyloe-crags.—June, July.—Appears to be confined to the eastern parts of our district. Far inland I find it growing in profusion about the Grey-Mare's-tail in Selkirkshire.

2. Th. majus.—D. Wooded banks of the Tweed opposite Milne-Graden.—R. Banks of the Tweed opposite Dryburgh; and on the Trows'-crags at Makerston or Malcarnestone, Dr. Frank Douglas.—Aug.

3. Th. flavum.—Very rare. B. Wood at Netherbyres; and in Dunglass dene, Rev. A. Baird.—The recent improvements at Netherbyres may have destroyed that habitat.

4. Anemone nemorosa. Wood Anemone.—Abundantly in our denes where the soil is a vegetable mould or mixed with peat:

"And woos the fairy solitudes
Embosom'd in the leafy woods."

Often found also on our elevated exposed moors, as on Lamberton,

Coldingham, and the Lammermuirs generally; and rising almost to the summit of Cheviot, where it is, as How says, "a singular beauty to those barren hills." Phyt. Brit. 8.—April.—The petals close before rain.

5. RANUNCULUS AQUATILIS.—Common in ponds and ditches, and conspicuous from the profusion and beauty of its white flowers in May and June.—Var. *α. heterophyllus*, with none of the leaves hair-like. B. In a ditch on the side of the Eye above Grant's-house. Aug.—*β. pantothrix*, with all the leaves multifid or hair-like. D. In the pond at South-Ord.

6. R. CIRCINATUS.—D. In a ditch leading into the lough of Holy-Island, where it was shown to me by Mr. Babington.—B. In the mill-dam at Fouldene-East-Mains.—July.

7. R. FLUITANS. Eel-ware,—a name given to it, either from its wavy motion in the water, or from harbouring eels when growing in a mass, for this is called an Eel-bed.—In rapid streams frequent, flowering throughout summer, very freely in some years; while in other seasons the plant is mostly barren.—Mr. Babington says, "I have also gathered R. fluitans in perfectly stagnant ditches, quite preserving its specific distinctions." Ann. Nat. Hist. iii. p. 226.—Willdenow had made the same observation long ago: "In fluviis et lacubus semper foliis longissimis dichotomis occurrit, nec ullo modo mutantur." Spec. Plant. ii. p. 1333.

8. R. HEDERACEUS.—Plashy spots in denes, and shallow ditches by road-sides, and in damp ground where water has stood during winter, frequent.—May–Aug.—The flower-stalks become singularly curved and deflexed as the fruit forms and matures; and the cluster of carpels is at length submerged.

9. R. FLAMMULA. The Butter-Plate, a name expressive of the comparative flatness of the corolla. In boggy moorish ground, common.—June–Sept.—It is called by some the Snake's-tongue, from the shape of the leaves. Shepherds say that the herb tastes like tobacco, and is deleterious to sheep.—J. Hardy.

10. R. LINGUA.—This fine species is scattered over the district. B. In Ferneyrig and Lithtillum lochs, Dr. R. D. Thomson. In a bog at Craig's-walls in the parish of Edrom, G. Henderson. In the Hen-poo at Dunse-Castle. In the Eden above Mark's bridge, Dr. F. Douglas.—D. Learmouth bog.—N. In the pond at Spindlestone; and in Newham Lough.—R. In Yetholm, Linton, and Hoselaw lochs.—Autumn.

11. R. FICARIA.—Flowers from about the middle of March to late in April in moist meadows, shaded banks and woods:

> "Careless of thy neighbourhood,
> Thou dost show thy pleasant face
> On the moor, and in the wood,
> In the lane—there 's not a place,
> Howsoever mean it be,
> But 'tis good enough for thee."

Wordsworth has celebrated this harbinger of spring in two pretty odes addressed "to the small Celandine." It is the Lesser Celandine of our old herbalists; and although it has lost its medical reputation, it retains the favour of our children undiminished. In woods, and especially in rookeries, it is closely gregarious, and, as Linnæus expresses it, "Hæc suffocat adstantes plantas uti Allium ursinum."—The leaves are frequently marked with a large purplish blotch, as are likewise those of R. hederaceus.

12. R. AURICOMUS. Abbot Fl. Bedf. 121.—B. Abundantly in the woods and denes in the vicinity of the Pease-bridge; and in the woods at Abbey St. Bathans, J. Hardy. On the Whiteadder near Whitehall, G. Henderson. Banks of the Tweed about Dryburgh, Mrs. P. Clay.—D. Wooded banks below Norham-Castle.—R. In boggy ground on the south declivity of the hill of Sterock in the parish of Yetholm, Rev. J. Baird.—May.

13. R. ACRIS.—Old pastures; muirlands; road-sides, &c. very common.—June–Sept.—"I have gathered specimens of this, and of R. repens, with the calycine segments metamorphosed into leaflets," J. Hardy.

14. R. REPENS.—Meadows, road-sides, and hedge-banks, very common. It loves a moist soil, and infests some gardens. Hence I have heard it called the Devil's-guts,—a name which indicates its troublesomeness, and its peculiar habit of throwing out long runners or trails.

15. R. BULBOSUS.—Meadows and new pastures, very common; but Mr. Hardy tells me that it does not occur within the parish of Cockburnspath, nor has he met with it in any part of that district,—a circumstance that may be owing to the want of the old dry pastures so frequent to the south of the Tweed.—May–July.—This and R. acris are sometimes used, by country people, to stanch the bleeding from wounds. The bruised herbs are applied directly to the cut, on which they must act as an irritant, and, by producing a sore, may occasion greater inconvenience than would have resulted from the loss of blood.

16. R. SCELERATUS.—In ditches and watery places, frequent in the neighbourhood of Berwick and along the coast of N. Durham; but of rare occurrence in the western parts of our district.—June–Aug.

17. R. ARVENSIS.—Corn-fields. In many places well known as a troublesome weed to the reapers, but rare in the vicinity of Berwick, and on the eastern parts of Berwickshire generally; nor does it occur, according to Dr. F. Douglas, in the neighbourhood of Kelso. By many an over-exact florist this is branded as an alien, having, it is con-

---

1. Ranunculus hirsutus.—N. In a field near the Heather-house, Bambro'shire, Geo. R. Tate.—D. July 9, 1851, I gathered a few fine specimens on waste ground at Velvet-hall. It is unquestionably a mere straggler with us.

jectured, been introduced with seed-corn ; but the plant that can trace back its settlement amongst us to the birth of agriculture has assuredly obtained a right to naturalization. To trace these corn-weeds to their original country, is as hopeless a task as it is to seek for our corns themselves growing in a wild and untended state.

The Ranunculi are in general very acrid, but R. repens is altogether herbaceous to the taste, and the strictly aquatic species possess acridity in a slight degree only*. The leaves and lower part of the stalk of R. acris are scarcely acrid, but the upper parts of the stem, the petals and stamens are very pungent. The sensation they produce in chewing is stinging, sharp, and of short continuance, being limited to that part of the tongue to which the plant is applied. R. sceleratus is the most active ; and R. flammula claims the next place. —The leaves are often marked with pale sinuous lines, which are produced by the burrowings of a caterpillar that finds a favourite food in their parenchyma.—The flowers of all the species close against rain and at sunset.—It is a vulgar belief that when predominant in pastures, the flowers of the common species impart their yellowness to the butter of the cows; but in truth the cattle leave them untouched, and consequently our fields glow and are gladdened with the golden cups,—"lætis floribus."—The flowers of the R. ficaria, bulbosus, acris and repens are the **Butter-cups** of our children, who use them to detect in their playmates any unconfessed and overweening fondness for butter, as Cornelius Webb has pleasantly recorded in the following lines :

> ". . . . . the flowers
> Children hold beneath their chins,
> So to learn who 't is that sins
> When the butter wastes by night ;
> And whose chin looks yellow-bright,
> That 's the rogue :—if no such luck,
> Then 't was ta'en by thievish Pluck."

18. CALTHA PALUSTRIS. **King-cup : Water-Gollard : Yellow-Gowan** : Marsh-Marygold.—The plashy sides of ponds, and in boggy places, especially amidst alders, common.—May, June.

> "While on burn banks the **Yellow Gowan** grows,
> Or wand'ring lambs rin bleating after ewes,
> His fame shall last."—ALLAN RAMSAY.

James VI., on his accession to the English throne, 1603, conferred upon George, Earl of Dunbar (Raines' N. Durham, p. 32), "the meadow called the Yellow Gowland, near Leatham, and extending to East and West Mordington." This large piece of ground, which embraced Cumberland Bower, Sanson's-Seal, and Bate's-cross, appears to have got its original name from the prevalence there of the Caltha ; and, perhaps, of the Buttercups in general, "which, in the Border

* Pennant says that in the Highlands, "the water Ranunculus is used instead of Cantharides to raise blisters." Tour in Scotland, 1772, ii. p. 43. This is a mistake, unless R. flammula is intended.

counties of England and Scotland, are named the yellow Gowan, Gowlon, or Gollande." Hardy in Hist. Berw. N. Club, ii. p. 20. But that the Caltha principally conferred the name I infer from the fact that there are two fields on Sansonseal which still bear the name of the Eastern and Western Gowlans, and, even in their present reclaimed state, it is easy to discover that they must have been, at no distant date, wet boggy ground such as the Caltha only delights in. The position of these fields is marked by an old ash which rises conspicuously above the trees in the modern plantation. This ash is called the Gowlan-tree; and a tradition lingers about the spot that, on a skirmish of unremembered date between the Scotch and English, the leaders of one party dismounted and tied their horses to it.

In Sweden, Linnæus says, "Floret dum Cuculus cantat, Rutilus ludit et butyrum flavescit quamvis a vaccis intacta;" Flor. Suec. 199: and so it is with us.—Gray tells us that in North America, of which this plant is a native, it is used as a pot-herb in spring when coming into flower; Manual, p. 12: and the pickled flower-buds, which are apparently the "cuckoo-buds of yellow hue" of Shakespere, have been recommended as a substitute for capers; but, however prepared, they will be found to acquire no flavour of capers whatever; nor are they free from acrid and poisonous qualities. See Christison on Poisons, p. 448.

19. Trollius europæus. The Globe-flower.—Not uncommon in our district, and a local poet has endeavoured to preserve one of its stations in his verse:

> "By Billy-burn in the lang-syne days,
> The Globe-flower oft I have plucked with thee,
> Or wandered about on the mossy braes
> Chasing the dragon-fly and wild red bee."
> G. H. in Border Magazine, ii. p. 296.

I trust the Trollius is still to be found there, for its habitats are disappearing annually before the encroachments of the plough. I cannot now find it on Lamberton moor, where it grew pleasantly twenty years ago.—B. Banks of the Leet near Swinton; Edington or Edinham moor; Bunkle wood, Rev. A. Baird. Plantation near Billy-mill, G. Henderson. Bog south of Hardacres, Dr. R. D. Thomson. Coldingham moor below Lumsden. Penmanshiel moss; Howpark dene; and Blackburn-rigg dene; and in bogs near Craneshawes, J. Hardy. In plantations on Lightfield farm near Gordon.—D. Haiden-dene; and Felkington bog, Dr. James Thompson*.—N. Henhole, Cheviot.—R. On Graden moor, Dr. F. Douglas.—The common people who know this fine plant call it Stocks,—a name which has

* Dr. James Thompson was the youngest son of Mr. James Thompson, tenant of Shoreswood Hall, where he was born on the 3rd September 1801. He received the usual education of boys of his station in Tweedmouth and Berwick, when he went to study medicine in the University of Edinburgh, where he graduated M.D. in August 1824. His Thesis was entitled "Tent. inaug. de quibusdam Plantis medicinalibus et earum succedaneis." It was shortly after this that my acquaintance with Dr. T. began, and we made many botanical excursions together. His manners and appearance were

the same meaning as its synonym Cabbage-Daisy, and both are derived from the resemblance of the flower to a close cabbage-stock. Lucken-gowan, a name of the Trollius mentioned by Allan Ramsay in his "Young Laird and Edinburgh Katy," conveys the same idea, for lucken signifies closed or shut, as in the word Lucken-booths. J. Hardy, Hist. Berw. N. Club, ii. p. 15.—The Globe-flower worthily occupies a place in the garden, and botanists of a future century may dispute its claim to be classed with indigenous plants.

1. *Berberis vulgaris.* Barberry.—In hedges and shrubberies occasionally, without any pretension to be considered indigenous in the district.

20. Nuphar lutea. Yellow Water-Lily.—B. Coldingham Lough. Abundant in the Eden above Mack's bridge, six miles from Kelso on the Edinburgh road, Dr. F. Douglas. It has been introduced into the pond at Netherbyres, at Dunse Castle, and at Kames.—R. Yetholm loch, Rev. J. Baird.

21. Papaver argemone.—Corn-fields, rather rare.—July–Sept.

22. P. rhœas.—William Turner writes in 1551,—"This kind is called in English corn-rose or red corn-rose, and with us it groweth much amongst the rye and barley." It has been very sensibly reduced both in quantity, and in its distribution, within the present century; but, in some farms, as in Holy-Island, the Poppy still abounds to excess, and imparts a gay hilarity to the sombre corn-fields. It disappears from infested fields when these are laid down in grass, and endures nowhere long if the soil is undisturbed; but let the ground be disturbed anew by the plough or the spade, no matter at what distant interval, the weed reappears in rich profusion. Of this fact we had an illustration when the railway was made from Berwick to Cockburnspath, and from Tweedmouth to Kelso. The sides of the cut were, in many places, literally clothed in scarlet; and this was especially the case where the line had been cut through those gravel knolls which some conjecture were deposited towards the termination of what has been called the glacial epoch. Nor need we be hindered from entertaining the belief that the Poppy was amongst the first plants that occupied the naked surface of those knolls, burying therein the seeds of primeval crops to be preserved intact until accident shall bring them up and within the influence of vivifying agents. There is a far-distant antiquity even in one of its provincial names. In the neighbourhood of Gordon I heard this weed called Cockeno,—evidently from 'coch' the Celtic for scarlet, and hence the name is probably coeval with the early inhabitation of the district. In other parts of Berwickshire the plant is called Cock's-combs. About Wooler it was wont to be called the Thunder-flower or Lightnings; and children were afraid to pluck the flower, for if, perchance, the petals fell off in the act, the gatherer became more liable to be

very prepossessing. Dr. Thompson subsequently went to Jamaica, where he practised medicine for a few years; but declining health at length compelled him to leave that island for America. He had not been long there, when the cholera broke out, with fatal violence, at New Orleans; and my friend was one of its victims. He died on the 23rd of May 1833.

struck with lightning; nor was the risk small, for the deciduousness of the petals is almost proverbial. "And it is called Papaver erraticum in Latin, in Greek Rhœas, because the flour falleth away hastily." Turner.—When cultivated, it becomes a beautiful annual. "In hortis, ubi florum colore pulcherrime ludit, nempe miniato, sanguineo, purpureo, carneo, niveo toto, carneo per limbum albo, &c." Haller, Flor. Jenen. p. 70.

23. P. DUBIUM.—Corn-fields, occasionally. The only Poppy in the neighbourhood of Cockburnspath, J. Hardy.—The anthers of our Poppies discharge their pollen by a slit along the edge, previous to the opening of the petals.—Hooke, in his Micrographia, p. 155, writes thus of the genus:—"And, methinks, Nature does seem to hint some very notable virtue or excellency in this plant from the curiosity it has bestow'd upon it. First, in its flower, it is of the highest scarlet dye, which is indeed the prime and chiefest colour, and has been in all ages of the world most highly esteem'd: next, it has as much curiosity shew'd also in the husk or case of the seed, as any one plant I have yet met withall; and thirdly, the very seeds themselves, the microscope discovers to be very curiously shaped bodies; and lastly, Nature has taken such abundant care for the propagation of it, that one single seed grown into a plant, is capable of bringing some hundred thousands of seeds."

24. GLAUCIUM LUTEUM.—B. On the shore between Eyemouth and Coldingham; at Lumsdene; and between the mouth of the Pease-burn and Dunglass-dene.

25. CHELIDONIUM MAJUS. Celandine.—In the vicinity of towns and villages amidst rubbish and ruins, and in hedge-bottoms, not common, but scattered over the district. Plentiful on road-sides to the west of Jedburgh.—Mr. Watson says, "In Scotland, it is rather an alien than even a denizen." Cyb. Brit. i. p. 108. It is, however, a true denizen with us, viz. "at present maintaining its habitats as if a native, without the aid of man, yet liable to some suspicion of having been originally introduced."—The yellow acrid juice is used to remove warts, and specks from the eyes. "I have heard of the leaves and stalk of this plant, boiled up with strawberry leaves, being used with wonderful efficacy in a case of jaundice by an illiterate empiric in Berwickshire." Dr. R. D. Thomson.—The correspondency of the

---

2. Helleborus viridis.—"Dunglass dean, Dr. Parsons."

3. Delphinium consolida.—Mr. Winch mentions this as growing "in a clover-field near the Lough on Holy-Island" (Flora North. p. 37), but he himself told me that he saw a single specimen only;—a waif lost so soon as it was blown.

4. Aconitum napellus. Monk's-hood. N. Banks of Wooler-water above Haughhead, Jas. Mitchell. The castaway of the garden, and hence often found in the plantations near the seats of our gentry.

5. Nymphæa alba. White Water-Lily.—About twenty years ago this handsome flower was planted in the pond at Newlands, N., where it throve exceedingly; and from this source several other ponds in our district have been supplied.

yellow juice with the yellow hue of the patient was here the index to the remedy. Hence also the vulgar use of the inner bark of the Barberry in the same disease. See Hardy in Hist. Berw. N. Club, ii. p. 12; and Notes and Queries, iii. p. 320 and 405. The skilful in herbs have great faith in the doctrine of "Signatures," for Providence, they say, has thus chosen to disclose the occult virtues of its gifts to those who can read the mystical signs and sympathies. And thus Thomas Fuller pleads in favour of the belief:—"Surely Nature would not have made it such a hypocrite, to hang out so fair a sign, except some guest of quality were lodged therein; I mean, it would not appear so beautiful to the eye, except some concealed worth were couched therein; inclining me to believe that the virtue thereof is not yet fully discovered."

26. CORYDALIS CLAVICULATA.—B. In Penmanshiel wood, in Pease-dene, and Edmonsdene abundantly, climbing elegantly amongst whins, briers and hazel-shaws. Banks of the Dye near Longformacus, Rev. T. Brown.—D. In Longridge dean.—N. In the loose and coarse debris on the sides of many of the Cheviot hills, sparingly.—Summer.

27. FUMARIA CAPREOLATA.—Hedge-bottoms, not uncommon. There is a variety distinguished by having white flowers.—July–Oct.

28. F. OFFICINALIS, var. α and β, Arnott in Hooker's Brit. Fl. (1830) i. 317.—Fumitory.—Corn-fields and cultivated ground, partial to a turnip soil.—The var. β so much resembles F. capreolata as scarcely to be distinguished excepting by its technical character.—June–Oct.—The Fumariæ, like the Poppies, hasten to occupy newly turned-up soils. They flourish best in autumn, when they become among the most ornamental of our late flowers. But hence to conclude that they are alien in origin is surely unsafe. The Corydalis has a superior "elegant and exotic appearance," and its nativeness is unquestioned.

29. CHEIRANTHUS CHEIRI. Wall-flower.—B. On the ruins of the castles of Berwick, Edrington, and Hume.—D. Norham castle: Holy-island priory.—R. Kelso Abbey.

"Decks the rough castle's rifted tower."

I cannot coincide with those who consider this to be a naturalized plant. Whence was it brought? It occupies similar habitats throughout Europe. It is a suggestive flower, and marks the era of the decline and fall of the rude feudal times.

30. NASTURTIUM OFFICINALE. Water-cress or Kerse.—Common in ditches and water-courses.—June–Sept.—Gathered in spring for salad, but eaten rather from a belief in its antiscorbutic virtues than from its agreeableness or superiority to the salads of the garden.

31. N. SYLVESTRE.—Sides of the Tweed from West-Ord upwards to Birgham haugh, in many places on a gravel soil.—Aug.

32. N. TERRESTRE.—Margins of the Tweed from West-Ord to Norham, sparingly.—B. In the stanks at the Cow-port: Lithtillum

loch, Dr. R. D. Thomson.—R. Bowmont water above Yetholm, Dr. F. Douglas.—June–July.—Its former favourite locality in the Tappee below Calf-hill is now occupied by the Railway-station. "Sic transit."

33. BARBAREA VULGARIS. In the bed of all our rivers and burns. Abundant near the mouth of the Whiteadder.—Summer.—A double variety is frequent in gardens, usually with yellow, sometimes with white flowers.

34. CARDAMINE SYLVATICA = C. flexuosa, With. Bot. Arrang. iii. p. 578.—In moist sandy ground and in crevices of mossy rocks wetted by the spray of dropping springs or waterfalls, in all our shaded deans. N. In Dunsdale it ascends undwarfed to nigh the summit of Cheviot.

35. C. HIRSUTA. Bab. Man. p. 22.—Moist meadows.—April–June.—I suspect that this is a rare species with us. I have seen specimens gathered on the rocks near the slate quarry at Aldcambus-W.-Mains by Mr. J. Hardy, who finds it also at the Black-Craig by the side of the Pease-burn; and in Lumsdene dean.

36. C. PRATENSIS. Pinks: Spinks or Bog-spinks.—Moist meadows and rough bogs, common enough yet, but much less common than we remember it to have been, and tile-draining may before long make it rare.—May–June.—"A secret frae you, dear bairn! what secret can come frae you, but some bit waefu' love story, enough to make the pinks an' the ewe gowan blush to the very lip?" Brownie of Bodspeck, ch. 11.

> "Or can our flowers, at ten hours bell,
> The Gowan or the Spink excell."—R. FERGUSON.

Our children, with whom the plant is a favourite, call it also Cuckoo-flower, because the Cuckoo often drops what they believe to be its frothy spittle on the leaves; and not, as Benjamin Stillingfleet says, because it blows when the bird begins its call, viz. about the 20th of April. Select Works, ii. p. 373. Children are not sufficiently observant to notice these coincidences.—In Roxburghshire Dr. F. Douglas tells me it is called the May-flower. It is the Lady-smock of our English poets:

> "and some to grace the show
> Of Lady-smocks most white, do rob each neighbouring mead,
> Wherewith their looser locks most curiously they braid."
> DRAYTON.

In autumn little bunches of leaves may be seen often to grow from the upper surface of the old but perfectly fresh leaves, each bunch throwing out a radical fibre that creeps along in search of a soil proper to take root in. These parasitical bunches are young plants, and

---

6. Nasturtium præcox.—B. In a grass field near Swinton-hill, J. Hardy. —R. On the Tweed near Kelso, Dr. F. Douglas.

will detach themselves either when the root-fibre has reached the soft ground, or when the parent leaf has decayed. See Hopkirk's Fl. Glott. p. 83; Fl. Berw. ii. p. 296; Don's Gard. Dict. i. p. 171; Rep. on Botany (Ray Soc. 1849) p. 280.

37. C. AMARA. Watery places in denes, on burn-sides, and at the base of hills, not uncommon.—B. In the Pease and Dunglass deans, and in Blackburn-rig dean: in Langton woods, and at the foot of Cockburn-law. In a ditch near the Sow-mire at Swinton, J. Hardy; and on the banks of the Tweed at Birgham, Dr. R. D. Thomson.—R. Banks of the Tweed near Kelso, Dr. F. Douglas.—N. In the ravine above Akeld or Akolde.—June.

38. SISYMBRIUM OFFICINALE. Wastes and road-sides, common.—June–August.

39. S. IRIO. On the walls of Berwick-upon-Tweed, John Ray. It grows in profusion about the Ness-gate, and there only; and there, for many years, it has scattered its numerous seeds on the heaps of manure collected from the streets. This manure is carried away annually and spread over the fields in the Liberties; yet a plant of the Irio has never been seen in any of these fields. This is a curious fact,—more especially when viewed in connection with another. In 1847 a large quantity of earth was taken from an adjoining field, where the Irio was never known to grow, and used to make the embankment on which the station of the N. British Railway partly stands. The Irio grew up on front of the bank in great profusion immediately. It rapidly, however, decreased;—only a few specimens were noticed in 1849, and in 1851 not an individual remained. Singularly enough, this plant, which refuses to colonize, is about the most profuse in seed of its tribe.

40. S. SOPHIA. Waste grounds near villages, occasionally. Aug.–Sept.

41. ERYSIMUM ALLIARIA = Alliaria officinalis.—Shady lanes, hedge-sides, and in deans, scattered over the district.—May–June.

42. ARABIS THALIANA = Sisymbrium thalianum.—B. In the deep ravine above Ross. On the ruins of the old bridge across the Eye at Ayton path; cliffs at the mouth of Dulaw dean, A. A. Carr. Quarry at Aldcambus, J. Hardy. Sea-banks near Redheugh.—D. Abundant on dikes below the Union-bridge; and amongst the debris of Kyloe-crags.—R. Point-walk at Kelso, Dr. F. Douglas. April–May.

1. **Brassica oleracea**, var. capitata. **The Cabbage.**—Introduced into the husbandry of Berwickshire by Mr. Fordyce of Ayton about

---

7. Hesperis matronalis. I once found a single plant in the bed of a burn which runs into the Whiteadder below Burn-houses.

8. Sinapis nigra = Brassica nigra, Koch Fl. Germ. 55. Black Mustard. Has been occasionally found in corn-fields in the neighbourhood of Berwick, but it is unstable in its habitats, and cannot be seen for two years in succession in any of them.

1750, and formerly cultivated in the district, by a few gentlemen-farmers, for fodder; but the crop was not found to answer, and its cultivation has been relinquished. See Bailey and Cully's View, p. 108; and Kerr's Berw. p. 284.—Numerous varieties are reared in our gardens.

2. **Brassica campestris.** The Rutabaga or Swedish Turnip.—Cultivated to a large extent, and much esteemed as winter and spring fodder for cattle. Its cultivation was not general until after the commencement of the present century. Two varieties have more recently been introduced, viz. the Green-top Swede, and Laing's Border-Swede.

3. **Brassica rapa,** Decand. Syst. 590. The Turnip.—Introduced into our district just a century ago; and nowhere now is there a greater breadth of Turnips annually sown, nor anywhere is the mode of raising them better understood. The principal varieties are the Common-Globe, the Green-top Globe, the Aberdeen-Yellow, and the Imperial Border-yellow.

4. **Brassica napus.** Rape.—Cultivated for fodder to sheep, but not generally. As of other cultivated plants, the native country of the Rape has not been discovered. Link has well said: "The original native country of many cultivated plants cannot now be determined by empirical proof, but only by rational investigation. Thus Rape is no longer met with in its wild state, but when we adduce proof from all extra-European countries that it is not indigenous to them, we must conclude that it is of European origin, although its wild state has disappeared through cultivation." Rep. on Botany (Ray Soc. 1849), p. 319.

43. Sinapis arvensis. Wild Mustard.—Corn-fields, too common. June–July.—The seeds, under the name of Shirts, are given as a favourite food to the Linnet. J. Hardy.

44. S. alba. White Mustard.—Corn-fields, common. June–July.

45. S. tenuifolia = Diplotaxis tenuifolia.—On the walls of Berwick, John Ray. It grows still on the Brass-mount. June–Oct.

46. Raphanus raphanistrum. The Runch.—A noisome weed in cultivated fields. In Berwickshire the swollen joints of the pods are called crawps. The seeds and pods are eaten by the cushat. J. Hardy. Bees are very fond of the flowers of this and of the wild mustards.

47. Draba verna. Earth-capped dikes and sandy banks exposed to the sun and often bare of other vegetation. April.—A favourite little flower, for it was my first essay in botany to determine its name, and I well remember the difficulty of the task*. Thence

* "On the old bridge at Eshing we were delighted to see a whole colony of that lovely little flower, Draba verna. Although it was the first time I had seen this beautiful forerunner of spring, it seemed, from the quantity

also the date of my love of the writings of Linnæus. My native guides described the plant with cold and accurate precision,—it grew on walls and dry banks,—and it flowered in March and April; but I was dissatisfied, for I had not before even seen the flower that now so much interested me, and I looked on it as the harbinger of other pleasures. So I went to Linnæus, and he told me that I was right to complain, and he spoke to my feelings. He said—"Campos sterilissimos sæpe integros albis stellatisque suis floribus obvestit et exhilarat prima in aprico florens."—"Dum floret, Secale vernum serunt Smolandi."—"Noctu et ad imbres evitandos coma nutat."—And I walked forth in the evening happy to verify an observation, the accuracy of which is not vitiated surely by the poetry of the language in which it is recorded.

48. LEPIDIUM LATIFOLIUM.—D. Sandstone quarry above the old ford at Norham, Miss Douglas. I gathered it there in July 1850, and again in 1852. It is a curious habitat for a plant said to grow in "saltish marshes."

49. L. CAMPESTRE.—B. Banks of Dunglass-dene, Rev. A. Baird. Lumsdene dean, J. Hardy.—N. Lime quarries at Lowick, Dr. F. Douglas.

50. L. SMITHII, Hook. and Arn. 37. Phytologist for 1848, p. 210. L. hirtum, Sm.—"Road-side near Whitekirk, Berwickshire," Dr. McNab. Plentiful in the bed of the Leader near Lauder. July–Aug.

51. TEESDALIA NUDICAULIS.—The members of the Club have gathered this plant in abundance in the vale of Langley-ford; in the bed of the College; and on debris near the summit of Yevering-Bell.—R. In the bed of the Bowmont for miles above and below Yetholm.—No station for it has been yet detected in Berwickshire or in N. Durham. June–July.

52. THLASPI ARVENSE. Penny-Cress.—One or more specimens may be annually picked up in corn-fields in the vicinity of Berwick; but you meet with them accidentally. It seems more frequent in the west of the district. A considerable number of specimens were procured by the Club in the neighbourhood of Greenlaw in the summer of 1843. The Rev. A. Baird had previously noticed it sparingly in the dry channel of the Bowmont; but in the summer of 1850 it appeared unexpectedly, and, much to his surprise, in vast numbers, in a field near to the manse of Yetholm which had long lain undisturbed. In 1852 the weed remains in undiminished numbers. I

in flower, to have been blooming for two or three weeks. I brought home several plants of it; one is now before me, growing and flourishing with plenty of earth on a sixpence: it has nineteen leaves, and five full-blown flowers, yet no part of it extends to the circumference of the sixpence. Is not this the smallest flowering plant known? It has long been a favourite of mine, and year after year the first plant I find of it is brought home, and commonly killed with kindness." Letters of Rusticus of Godalming, p. 116.

believe the plant to be one of those original attendants on the cereals which have been nearly eradicated by the cleanliness of modern agriculture.

53. T. BURSA-PASTORIS = Capsella bursa-pastoris. Shepherd's purse: Ladies'-purses.—A common weed in waste grounds and on road-sides, flowering during the entire summer. Subject to great variety, but the variations may be reduced to two, viz. (1) radical leaves forming a rosette on the ground and more or less deeply pinnatifid: (2) leaves all cauline and entire. The latter is found principally in gardens.—Cage birds are fond of the seed, and the weed is often gathered for their use.—"Children have a sort of game with the seed-pouch. They hold it out to their companions, inviting them 'to take a haud o' that.' It immediately cracks, and then follows a triumphant shout—'You 've broken your mother's back.'" J. Hardy.

54. COCHLEARIA OFFICINALIS. Scurvy-grass.—Sea-banks of Berwickshire, very abundantly.—D. Hudshead, Holy-Island.—N. Near the summit of Cheviot in the Henhole and Brizzle.—R. On Melrose Abbey. April–May.

55. C. DANICA.—B. Sea-banks between Dulaw and Redheugh, J. Hardy.—D. On the Pinnacles, one of the Farne islands, Dr. Jas. Thompson.—I have been often puzzled with specimens whether to refer them to this or the preceding species. In the 'British Flora' they are made varieties merely of one species. See also Withering's Bot. Arrang. iii. p. 572.

56. SENEBIERA CORONOPUS.—Waste grounds.—B. About Berwick and Coldingham.—D. About Spittal and Holy-Island.—R. At Haddon village abundant, Dr. F. Douglas. June–Aug.

57. CAKILE MARITIMA. Sea Rocket.—D. Sea-shore from Spittalouthwards; and on the shores of Holy-Island, plentiful.—B. On the shore at Coldingham bay, and below the Pease-dean. June–Sept.—A cosmopolite. "Habitat in Europæ, Asiæ, Africæ, Americæ maritimis." Willdenow.

58. CRAMBE MARITIMA. Sea-Kale.—B. On the shore by Fast-Castle in Berwickshire, Dr. Parsons. "It formerly grew so plentifully on the shore in that neighbourhood, that the farmer of Lumsdean, Mr. Anderson, used to transplant it into his garden for culinary purposes. In 1830, I observed a few plants of it growing on Lumsdean shore." A. A. Carr, Hist. Coldingham, p. 188.

---

9. Camelina sativa. Rarely a stray specimen may be gathered in our district amongst corn, but it has no fixed station.

10. Cochlearia armoracia = Armoracia rusticana. Horse-Radish. Cultivated in gardens, and hence occasionally escaping to a piece of waste ground that may be lying hard by.

11. Iberis amara. Candy-tuft. I have gathered it in the bed of Ale water; and it has been found by Miss Bell at Coldstream and near Laynal church, having sprung from seed carried from the garden.

59. Reseda luteola. Yellow-weed: Yellow-Rocket.—Waste grounds, gravelly pastures, and in the beds of our burns, common. Abundant on the banks of the Whiteadder; and often very luxuriant on the scaurs of our deans. About Coldingham Priory plentiful, where a tradition still lingers that the herb was used by the nuns in dyeing the woollen stuffs they had spun. Summer.

60. Cistus helianthemum = Helianthemum vulgare. The Yellow Cistus.—A common plant in our district, adorning, with its bright and gay blossoms, gravelly and rocky banks in deans, many parts of our sea-banks, and covering dry elevated ridges and crags. It is very sensitive to atmospherical changes. June–Aug.

61. Viola palustris. In turfy meadows and boggy ground, especially in alder copses, common. June–July.

2. *V. odorata.* The Violet.—B. Banks of the Eye and Ale, abundant near their confluence, A. A. Carr. Under sycamores above the Blue-stane ford, G. Henderson.—It is not indigenous with us, but I have seen it naturalized in several places in woods, and under hedges. Spring.

62. V. hirta. Not uncommon in our district.—B. It is plentiful on the banks above New-mills, or, as it was spelled in 1683, New-milne, and on the banks of the Whiteadder below Chirnside. It occurs in equal plentifulness in the ravine at Ross, and on the banks to the north of Burnmouth; and on those of Ale-water. It is found on the banks of the Tweed at Milne-Graden, and indeed wherever the banks are covered with brushwood and old herbage.—D. Wooded banks below Norham Castle.—April–May.

63. V. canina = V. sylvatica, Bab. Man. p. 35. Wild Violet: The little Blue-bell.—Common everywhere from the sea-side bank to the open muirs. It may, perhaps, be partial to hedge-bottoms and to deans with a northern exposure, but it does not shun the sunniest brae nor even spots bare of all herbage. A great favourite with children; and should any become, at a later period, a botanist, he will be interested with the discussion as to its right and proper name in science. See the Botanical Gazette, vol. i.; and the Phytologist for 1849.

64. V. lutea. This violet is found on the entire range of the Cheviots and of the Lammermuirs wherever the sward is free of rank herbage or heather; and hence it is found especially on the green tops of the hills that are occupied with the remains of the camps of the ancient British people. It grows on the steep banks above Fast-Castle, and on those of Coldingham lough. It occupies the British camp at Ernesheugh; and survives those that were on Ewieside, Buncle-edge, and Preston-cleugh. It grows in the trenches of an old

---

12. Reseda lutea. In 1830 I found two patches on Spittal links, where the plant has not been again observed. Dr. R. Dunlop found specimens either of it or of R. fruticulosa, on the ballast behind the Pier in 1832, but there also it passed away quickly.

encampment at Warlawbank above Auchincraw or Aldencrawe (always pronounced Eddincraw) ; and amid the traces of the Covenanters' encampment on Dunse-law. It is on the Eildon-hills ; on Sterrock above Kirk-Yetholm ; and on every cairn-crowned summit amidst the Cheviots. It might aptly emblazon the armorials of the British antiquary.

65. V. TRICOLOR. Wild Heart's-ease or Pansy.—Common in cultivated ground on a light or gravelly soil.—May–Sept., and, in sheltered places, it will continue to flower throughout the winter. Mr. Macgillivray considers it and the preceding to be one species. Wern. Mem. vi. p. 552.—The lateral and inferior petals are always marked with dark streaks, and the throat of the latter is always saffron-yellow, but otherwise the flower is subject to vary :—α. *vulgaris* : the corolla larger than the calyx, with the upper petals auricula-purple, and the three lower ones of a pale or azure-blue, or very pale yellow.—β. *saxatilis* : corolla larger than the calyx, all the petals pale yellow, the inferior often darker.—γ. *arvensis* : corolla very small, not longer than the calyx. This has often been considered a distinct species. See Ann. Nat. Hist. ix. p. 72.

66. DROSERA ROTUNDIFOLIA. With. Bot. Arrang. ii. 324 ; Lindley's Ladies' Botany, ii. 82.—Sundew. In sphagnous bogs, generally distributed over the district, but more frequent in the west. July.

67. D. ANGLICA.—B. In 1828, Mr. Carr "met with a few specimens of this somewhat rare plant, growing with D. rotundifolia, between Renton-Bell and the old post-road leading to Edinburgh, where he has since repeatedly sought for it in vain." Hist. Coldingham, p. 184.

68. PARNASSIA PALUSTRIS. White Butter-cup.—This very pretty flower—"omnes elegantiâ suâ facile superans"—is common on our moors, blossoming freely in autumn, the pride of moist grounds and turfy bogs. It descends to the sea-coast ; and is to be found on the links of Holy-Island. "Mr. William Broad observed it to grow plentifully in the Castle fields of Berwicke-vpon-Tweed," Johnson in Gerarde ; but from this habitat it was eradicated by draining in 1843. William Broad was a member of the Society of Apothecaries of London, and one of a company of botanists who twice a year, or oftener, made excursions from London into the country in search of rare plants. Of these excursions Thomas Johnson has given a pleasant history, at least of those made in 1629, 1632, 1634, &c. ; and lovers of the Flora of Britain are indebted to Mr. Ralph for his elegant republication of Johnson's Tracts. Broad seems to have been one of the most zealous of the band. What brought him to Berwick I have not been able to discover.

It is curious to observe the manner in which the stamens kiss the pistil. "First, one of the stamens places itself across the stigma, lets its pollen go, then rises up and resumes its former position. In the mean time the second is already following in the same manner,

and as soon as the first rises from the stigma, the other covers it; the third succeeds like the two first, but as soon as it has risen, the two last come both at once." Willdenow.

69. POLYGALA VULGARIS. **Milk-wort.**—Lindley's Ladies' Botany, ii. 30.—Common on our heaths and old grassy banks in deans, with blue, white, and pink blossoms. Very pretty. June–Aug.—Willdenow's remark—"apud nos nunquam fere erecta, sed procumbens," is strictly applicable to the plant as found with us.

70. DIANTHUS DELTOIDES. **Wild Pink.**—B. Common in the west of our district, as about Nenthorne, Stitchell, and Smailholme. Of rarer occurrence in the eastern parts of Berwickshire, but grows plentifully at St. Helen's Chapel*, and is to be found about Grant's-House and in some parts of Houndwood plantations. Mr. Hardy gathers it on the sea-banks at the foot of Dunglass dean; and it occurs in Lumsdene dean, and on the banks of the Ale near Linthill. —N. On Chapel-hill at Belford; and frequent in the vicinity of Wooler.—R. Plentiful about Yetholm. All the habitats appear to be in the greywacke or porphyritic portion of our district.—On Blinkbonnie hill, Nenthorne, plants are occasionally found with pure white flowers. Dr. F. Douglas. Summer.

71. SILENE INFLATA. **White Cockle.**—In corn-fields of a light soil, wastes and road-sides, common. A hirsute variety occasionally occurs, which, Sir W. J. Hooker says, maintains its character under cultivation. The plant is known to some of our country people by the name of **Cow-paps**, evidently derived from the shape and size of the turgid seed-capsules. Summer.

72. S. MARITIMA = S. amœna, Light. Fl. Scot. 227.—**Witches'-Thimbles**, the name derived from the notable calyx. Common on our sea-coast, and highly ornamental, flowering from June to September. "On the sea beach in stony places frequent, as at Fast Castle, on the coast of Berwickshire," Lightfoot. Dunsdale near the

* For a description and views of this interesting place see Carr's Coldingham, p. 98–103.—Mr. Alexander Allan Carr was the fourth son of Robert Carr, druggist, and a burgess of Berwick-upon-Tweed. He was born 19th May, 1811. Educated in the grammar-school of his native town, he subsequently studied medicine in Edinburgh; and, in 1832, he began the practice of his profession in Ayton. Here he occupied the leisure which is the portion of the young practitioner, in the study of botany and of the antiquities of his neighbourhood; and some of the results were embodied in contributions to the Border Magazine and Border Tales, edited by Mr. John Mackay Wilson. But his materials became at length sufficient to enable Mr. Carr to undertake "a History of Coldingham Priory," which was published in 1836. The volume was unfortunately "got up" in an unattractive form, but otherwise the book is a good book, and creditable to the author's talents and industry. It drew notice on him, and he accepted an appointment as assistant-surgeon in the Navy, 15th April 1837. He continued in the service until symptoms of Phthisis pulmonalis appeared; and he died, under his paternal roof, Dec. 20th, 1839.

summit of Cheviot, Dr. F. Douglas.—The young capsule and seeds are dark violet, whereas the seeds of S. inflata are white.—Sheep are remarkably fond of this plant. A few, on being introduced into one of the Farne islands, where the Silene grew in large patches, greedily dug up the roots for food, and soon nearly eradicated the plant. P. J. Selby.

3. *S. noctiflora.*—D. I have seen it in fields at West-Ord; and it is a common-enough weed in corn-fields between Red-Houses and Thornton E. Mains. In Holy-Island in fields about the Farm-house. July–Aug.—The outer edge of the petals is crenulate, and the inferior surface yellowish. The seeds are pretty objects under a magnifier.

73. LYCHNIS FLOS-CUCULI. Ragged-Robin.—Frequent in bogs. June–July.—A white variety is occasionally seen, but it is rare with us.

74. L. VESPERTINA. Waste grounds and dry cultivated fields, common, expanding the corolla in the evening and in dull moist weather. A variety is sometimes seen having rose-coloured flowers. July–Oct.

75. L. DIURNA. Common. In most of our deans and woods, and not unfrequently at hedge-bottoms. It is remarkably abundant on the sea-banks between the Coves and Marshall-meadows; and again on the banks near Lamberton-shields, and is a great ornament to them in May and June. The fertile plants are, in general, much more robust and clumsy than the barren ones; and the petals of the former have a large tooth at the sides which those of the latter commonly want, their margins being entire. The difference between the plants is so considerable that they can readily be distinguished at a distance. Sometimes a considerable patch of barren plants is met with having very few or no fertile individuals intermixed. The flowers are usually red, sometimes pale rose, and more rarely white; but even this variety was easily distinguishable from L. vespertina. See Willd. Sp. Plant. ii. p. 810; Babington in Ann. and Mag. Nat. Hist. vi. p. 57.—Smith makes L. diurna and vespertina one species, = his L. dioica. When doubled by the art of the gardener, the Red Lychnis makes a good flower for the border in June.

76. AGROSTEMMA GITHAGO = Lychnis githago = Githago segetum, Don Gard. Dict. i. p. 417.—Corn-Cockle: Popple or Pawple.—Corn-fields, a showy but noxious weed; and hence its name is often used figuratively in composition. "Some have made virginity the corn, and marriage the cockle." Fuller, Ch. Hist. i. p. 294.

> "Good seed degenerates, and oft obeys
> The soil's disease, and into Cockle strays." DONNE.

Donne, in this couplet, asserts a metamorphosis, the reality of which

---

13. Saponaria officinalis. Has been found near (D.) Twizel-bridge on the sides of the Till; and at two separate places in a hedge by the post-road near Millfield, but it has undoubtedly been introduced.

our early herbalists never doubted*. Wheat, they believed, sown in sour land became rye in the second year, and two years after went into darnel. Barley under a similar treatment passed into oats; and cereals in general might become the very weeds that choked the husbandman's expectations. Of the Blewbottle or Blaublawes, Turner says—"it groweth muche among Rye: wherefore I thynke, that good ry, in an euell and unseasonable yere doth go out of kynde in to thys wede."—In relation to this subject the curious reader may consult Dr. Weissenborn's account of the transformation of Oats into Rye in Charlesworth's Magazine of Natural History, i. p. 574; ii. p. 670: Vestiges of Creation, p. 225; and the Sequel, p. 111: Notes and Queries, vi. p. 7.—Cockle, says Richardson, is from the "A.S. coccel, which Skinner thinks is from Ceocan, to choke, because it chokes the corn." This is to mistake the character of this weed: it does not choke the corn, but its injuriousness arises from the seeds being mingled and ground with the grain and communicating an unwholesome quality to the flour. The name undoubtedly has the same root as Cockeno (p. 30). Indeed Bailey makes Cockle the synonym of the Corn-Rose; and Johnson defines it to be "a species of Poppy."—The seeds are reckoned a remedy for toothache.

77. Sagina procumbens. At the bottom of shaded walls, and on heaths and grassy poor pastures, very common. Summer.—The flowers are cernuous before their blow, and after it the capsules become also nutant. The parts of fructification are occasionally in fives.

78. S. maritima = S. stricta, Koch Fl. Germ. 109.—D. Very abundant on Yareforde or Yarrow-haugh. Links south of Fenham. On rocks in Holy-Island between the Heugh and the Castle. The Farne islands.

79. S. apetala.—B. On the parapet of the Walls at Fisher's Fort. Banks of the Ale near Lint-hill farm-house, A. A. Carr. Foot of Dunglass dean, J. Hardy. D. Holy Island Castle, Dr. F. Douglas.—The ripe capsules are generally erect, but sometimes nutant.

* "But in Plants, wherein there is no distinction of sex, these transplantations are conceived more obvious than any; as that of Barley into Oats, of Wheat into Darnel; and those grains which generally arise among Corn, as Cockle, Aracus, Ægilops, and other degenerations, which come up in unexpected shapes, when they want the support and maintenance of the primary and master-forms. And the same do some affirm concerning other Plants in less analogy of figures; as the mutation of Mint into Cresses, Basil into Serpoil, and Turneps into Radishes. In all which, as *Severinus* conceiveth, there may be equivocal seeds and Hermaphroditical principles, which contain the radicality and power of different forms; thus in the seed of Wheat there lieth obscurely the seminality of Darnel, although in a secondary or inferiour way, and at some distance of production; which nevertheless if it meet with convenient promotion, or a conflux and conspiration of causes more powerful than the other, it then beginneth to edifie in chief, and contemning the superintendent form, produceth the signatures of its self." Sir Thomas Brown. Vulg. and Com. Errors, Bk. iii. p. 117.

80. SPERGULA SUBULATA = Sagina subulata.—B. Quarry at Catch-a-penny ; banks of the Ale near Millbank, A. A. Carr. Coldingham moor; and at old road-sides on Penmanshiel moor.—N. Crags at Easington below Belford, and at Spindlestone. Summer.

81. S. NODOSA = Sagina nodosa.—Common in turfy and boggy ground with a gravel or sandy bottom. Summer. Delicate and pretty.

82. S. ARVENSIS. Yaw and Dothers.—Very common in cultivated fields and a weed in turnip soils. The herbage has sometimes a sickening smell; and the little flower willingly obeys every whim of the atmosphere.

83. STELLARIA NEMORUM. Occurs in beds in many spots on the sides of the Tweed from Norham to the Leader, *i. e.* near Lennel or Laynal; in the island at the Lees ; near Wark ; the Trows'-crags ; the Holmes, and at Auld-Melrose. It is found also in deans in the west of our district, as *e. g.* in Redpath dean ; but is either not met with in the eastern deans, or is very rare there.

84. S. MEDIA. Chickweed: Chickenweed or Cickenwort.—Waste and cultivated grounds, very common and very variable.—Flowers throughout the year, and alive to every atmospheric change. —This weed is a popular remedy, applied fresh, to allay the swelling caused by the sting of a bee. Where it abounds, it is said to be prejudicial to stock from its purgative property. In some springs as many as sixteen sheep have died, in a flock penned upon turnips among which chickweed grew luxuriantly, and to it alone the shepherd attributed the fatality. If birds devour too many of the leaves or seeds, this quality of the plant manifests itself. In spring the seeds are a favourite food of the Linnet in a wild state. J. Hardy.

85. S. HOLOSTEA. Woods, deans and hedge-banks, common, and highly ornamental. May. I am told that in Northumberland this beautiful flower is called Dead-man's-bones. It is found amongst the Cheviots at a considerable height.

86. S. GLAUCA.—B. Lurgie loch, R. Hislop. Gordon moss, plentiful.—R. Bowmont water, Dr. F. Douglas.—N. Sides of the pond at Spindlestone ; and Newham lough. June.

87. S. GRAMINEA. Heathy soils in bushy places, common. Frequently grows up prettily amidst a bush of the whin. Summer.

88. S. ULIGINOSA. Ditches and bogs, frequent. June.

89. ARENARIA SERPYLLIFOLIA. On walls and sandy ground, common. Summer.

90. A. TRINERVIS = Moehringia trinervis.—Damp shady places. Scattered over the district, but not abundant in any locality. June.

91. A. PEPLOIDES = Alsine peploides = Honckenya peploides. —Abundant on our sandy sea-coast, growing in thickly-set patches. Summer.

92. A. RUBRA = Alsine rubra.—Sandy fields, not uncommon.

It is frequent on roads amid the Lammermuirs. On the road from Grant's-house to Penmanshiel. July–Aug.

93. A. MARINA = Alsine marina.—Sides of the Tweed from the bridge upwards to Newwaterhaugh. Coast of N. Durham in many places. Holy-Island.—Our plant is the variety obesior of Koch, Fl. Germ. 111.

94. A. VERNA = Alsine verna.—B. On the coast of Berwickshire it is found on banks to the north of Eyemouth Fort, and above Earnsheugh: in Dulaw dene, and on banks between it and Redheugh; but its principal and most interesting station is St. Abbs'-head,—so called from Ebba, the daughter of Edelfred, King of Northumberland. "Ebba the onelie daughter of Edelfred being taken amongest other prisoners, and escaping from hir taker, miraculouslie got a bote in the river of Humber, and with the same taking the sea alone, without all humane helpe (as hath beene reported) she sailed foorth, and at length safelie arrived at the point of land which stretched foorth into the sea, in the mouth of the Forth, called even unto this day after hir name, saint Ebbes head, where being received by the bishop of that diocesse, she was professed a nun, and after continuing in great perfectnesse of observing that profession, she was instituted abbesse of hir house, shewing still in trade of life an orderlie example for hir flocke to follow." Holinshead. Hist. Scot. p. 111. 1585*.—N. Spindlestone crags, R. Embleton. Summer.

95. MŒNCHIA ERECTA.—N. On Spindlestone hills, G. Tate.

96. CERASTIUM VULGATUM = C. glomeratum.—Fields and road-sides. In the neighbourhood of Berwick this species is of rare occurrence, but it is common in other parts of the district, preferring a light sandy and rather moist soil. I have seen it frequently on the half-formed and devious paths which lead from the shielings amidst the Cheviots. It likes also the bare gravel tracts left by runlets after heavy rains. Summer.

97. C. VISCOSUM = C. triviale.—Road-sides, wastes and fields,

* Fuller's history of this lady is as follows:—"Saint Ebba was born in Northumberland, being daughter to Edilfrid the king thereof. When her father was taken prisoner, she got hold of a boat in the Humber; and, passing along the raging ocean, she safely landed at a place in Merch in Scotland, which is called the promontory of Saint Ebb unto this day.—Becoming prioress of Coldingham in that country, to preserve her own and fellow-nuns' chastity from the pagan Danes, she cut off her own nose, and persuaded the rest to do the like; that their beauty might be no bait, whilst their deformity did secure their virginity. Sure I am, that since, more have lost their noses in prosecution of their wantonness, than in preservation of their chastity. As for the Danes, being offended that these nuns would not be the objects of their lusts, they made them the subjects of their fury, burning them and their monastery together."—She flourished about the year 630. Worth. England, ii. p. 545.—There is a good description of St. Abb's-Head in Chambers' Picture of Scotland, p. 22: but that which will most please the naturalist is in the preface to the Flora of Berwick, p. xiv–xvii. It was written by the late Rev. A. Baird of Cockburnspath.

very common. May–Sept.—I have gathered specimens in this neighbourhood, and at a very slight elevation, which appear to be referable to the variety alpinum of Koch, Fl. Germ. p. 122. It is remarkable for its large broadly oval leaves, and its larger flowers.—"Having an opportunity of examining the stomach of the Stockdove about July 26th, I found it completely crammed with the seed-capsules of C. viscosum." J. Hardy.

98. C. SEMIDECANDRUM. On earth-capt dikes and waste grounds. March–April.

99. C. TETRANDRUM. Plate I. = C. tetrandrum, Fl. Berw. i. 101. Hooker Br. Flora, 4th edit. 188. Koch Fl. Germ. 122. Edmonston's Fl. Shetland, 29. = C. atrovirens, Babington in Mag. Zool. and Bot. ii. 317; Prim. Fl. Sarn. 17.—On walls and waste places, common. It evidently prefers to grow within the influence of the sea's atmosphere; and hence it is plentiful along the entire coast of our district, being found on the sandy links as well as in the clefts and fissures of our hardest rocks. The neatest specimens are to be gathered from the large detached and chinky pieces of rock that lie isolated within reach of the tide. In the interior the plant is less common, but I have gathered it at Greenlaw and in the village of Gordon. When it grows in the shade, and without a free exposure to the air, it assumes the form of the C. pedunculatum of Babington.

100. C. ARVENSE.—D. Spittal and Scremerston links. Profusely on the bank above the road at Norham Castle; and on the islands in the Tweed above Horncliff and above Norham: Wark Castle.—B. Banks at the Old-Castle; and at Newwaterhaugh.—Of not uncommon occurrence in the district on dry banks, borders of fields, and road-sides. The only ornamental species of its genus, flowering from May to August. The petals are very often gnawed and nibbled away by ants.

5. **Linum usitatissimum.** Don's Gard. Dict. i. 453.—Flax or Lint.—Occasionally specimens may be found growing wild in cornfields, introduced with seed-corn. In Turner's time, 1551, Flax was grown "very plentuously in the north parte of England*;" and until within the present century, it was cultivated in the district "in small patches for the use of the family of the farmer, and for the wives of the hinds or married ploughmen and herds, as part of their gains, or wages in kind." Even this partial cultivation had ceased until within this year or two, when some efforts have been made to revive the practice, with more extensive views.

101. L. CATHARTICUM. Fairy-Lint or Fairy-Flax.—Dry pastures and moors, common. June–July. From the abundant harvests of this elegant weed on our upland pastures, prepared and manufactured by supernatural skill, the "Good People" were wont, in the

* Lintlaw, and Linthill in Berwickshire, and Linthaugh in the parish of Ford, probably derived their name from the cultivation of Lint upon them.

olden time, to procure their requisite supplies of linen!—"Coma ante florescentiam nutat."

102. RADIOLA MILLEGRANA. Damp sandy places, rare. D. Ancroft moor.—B. On the farm of Dulaw, A. A. Carr. Birgham muir; and on Caverton Back-edge. Summer.

103. MALVA MOSCHATA. This fine plant is met with scattered over the district, growing on waste grounds by the sides of our rivers and burns, as *e. g.* by the Tweed and Whiteadder throughout their courses. It is abundant in the Hirsell wood on the banks of the Leet; on the Eden near Newton-Don; and in Langton woods.—B. With perfectly white flowers, at the foot of Brockholes'-dean burn; and in the lane between Auchincraw and the ruins of Billy-Castle, G. Henderson. Aug.

104. M. SYLVESTRIS. Maws: Mallows.—Waste places and road-sides near villages, frequent, but capricious in its distribution. It has been planted in many of its present localities. The variety *alba-flora*, Don Gard. Dict. i. 462, besides the white flowers, is distinguished by a peculiar shade in the green of the leaves, and by a general delicacy of habit. I have seen it only near the village of B. Preston, where the three Malvæ grow together.—June–Aug. The leaves boiled make a favourite poultice in rural medicine; and a decoction of the herb still retains a place in our Pharmacopœias. The flowers are showy and not vulgar. Our children pull off the capsules, and, under the name of Cheeses, use them sometimes as ornaments in their play-houses; and sometimes they string them into bracelets; and sometimes they eat them. In connection with this custom there is a beautiful passage in Dr. Lindley's Ladies' Botany, i. p. 86.

105. M. ROTUNDIFOLIA. Waste ground near villages and onsteads, more especially near the coast, not uncommon. June–Sept.

6. **Tilia europæa.** The Lime-Tree. Don Gard. Dict. i. 552.—In avennes and plantations. July.

7. **T. grandifolia.** The Lime-Tree.—Intermingled with the preceding, and only distinguished as a species by the botanist, who, in this instance, is probably less correct than the planter.—According to the Rev. Dr. Walker, the Lime-tree "does not appear to have been planted in Scotland before the reign of Charles the ii."

106. HYPERICUM QUADRANGULUM. Deans, moist meadows, banks of ditches and rivulets, frequent. July.

107. H. DUBIUM. Copses, not uncommon. Mr. Babington showed me the variety *β. maculatum* growing on the banks of the Tweed above the Chain-Bridge. July.

108. H. PERFORATUM. Don Gard. Dict. i. 608.—Saint-John's-wort.—Copses, rough places on river-banks, and hedge-banks, frequent. July–Aug.

109. H. HUMIFUSUM. Gravelly pastures and heathy places, not rare. It grows abundantly in the fields at St. Abb's-head. July.

110. H. HIRSUTUM. Deans and the banks of rivers amidst coarse herbage, not uncommon in our district. Abundant on the Tweed from the Union-bridge to Tillmouth. July.

111. H. PULCHRUM. Dry heaths, deans and copses, common. It is abundant on Eildon-hill, where, in the shelter of the whin-bushes, it ascends to within 300 feet of the summit. The prettiest species of a fine genus; and amongst the most beautiful of native plants. July.

4. *H. calycinum.* Aaron's-Beard.—D. "Grows luxuriantly on the southern bank of the Tweed near Castleton-mill, where a Border Tower is said to have stood in old times, and exactly opposite to Lennel-House. It was planted there by the late Mr. Brydone, about 60 years ago, soon after he came to reside at Lennel; and I can remember him saying, on seeing how rapidly it was spreading, that he was sure it would puzzle botanists in after-times, and be taken for a native plant." Miss Elizabeth Bell, May 1845.—Mr. Brydone was the author of the well-known "Tour through Sicily and Malta in 1770." He spent the latter years of his life at Lennel, and lies buried within the ruins of its ancient church, where a slab, on the inside of the south wall, bears this inscription: "Patrick Brydone, Esq. F.R.S. nat. 1736. ob. 1818."

8. Acer campestre. The Maple.—In hedges and plantations.

5. *Acer pseudo-platanus.* The Plane-tree: Sycamore.—May–June. Hedges and plantations. The Plane is undoubtedly the first of alien trees which was introduced into our district. It often stands alone, or in a group of two or three, to mark where the Ha' of the old country gentleman has stood; and we frequently meet with the tree apart in fields, or unawares in remote localities amidst the Lammermuirs and Cheviots, where it is the surviving witness of the former existence of a hamlet there. Straggling lines of the Plane indicate also not unoften the greater extent of our villages in former than in the present times. I may mention as examples Fouldene, Aldcambus, and Upsetlington. Hence to the botanical rambler the Plane has a more melancholy character than the Yew. It throws him back on past days when he who planted the tree was the owner of the land and of the hall, and whose name and race are forgotten even by tradition. Alas! for that forgetfulness which waits upon humanity,—especially on that which had only the virtues of a retired life, and secret benevolence, to preserve it!—There is reasonable pride in the ancestry when "a grove of old gentlemanly Sycamores still shadows the hall." Surtees *.

* "Young wood may excite hope; but that is to the possessor only. The spectator may be pleased at the prospect of improvement or the sight of industry; but he contemplates, whether truly or not, the upstart woods, as he does the upstart villa and the mushroom proprietor. But ancient trees imply gentility, for they are ancient wealth; and that, according to Cicero's definition, is gentility. They remind us of all the splendour, the comfort, the protection, and the kindness, which surrounded the baronial residence or the mansion of the ancient gentleman; they are the marks of

Dr. Walker, among the remarkable trees in Scotland, particularizes a Plane at Nisbet in Berwickshire, "on the south side of the walk in the shrubbery, leading to the garden," which, on the 15th of September, 1795, was about 60 feet high, and measured 8 feet 6 inches in circumference. Another at the same place, "which stands on the lawn, behind the house," was between 60 and 70 feet high, and measured 12 feet 3 inches. The former tree is now between 65 and 70 feet high and 10 feet 6 inches in circumference; and the latter is about 80 feet in height, and its circumference, ten feet from the ground, is 13 feet 4 inches.—An old Plane-tree at Ninewells "measures, by the girth, 17 feet of solid wood, below the boughs; which, although generally strong and spreading, have at their top a fading, which marks their suffering by the endurance of the blasts of many winters, which cannot be reckoned fewer than 150 in revolution: for the oldest people of the last generation, when asked about its appearance, in their memory, said, that they never remembered it but in full growth, and with some marks of its being at the age of declining." Dr. Anderson in Stat. Account of Scotland, xiv. p. 46, an. 1795.

In spring children rob the tree of its leaf-buds, calling those which are partially expanded "cocks," and those which are less so "hens." When the "cocks" are dissected, the skilful manner in which the large leaves are folded up within such small compass, is very much admired by the infant philosophers. Schoolboys make whistles with the branches, for which they are excellently suited, as the bark, in spring, separates readily from the wood. When in flower the tree is alive with the hum and buzz of bees and flies.

> "The Plane's thick head mid burning day suspends
> Impenetrable shade; bees humming pour
> O'er the broad balmy leaves, and suck the flower."—J. Wilson.

9. **Æsculus hippocastaneum. The Horse-Chestnut.**—Don Gard. Dict. i. 652.—Introduced into Europe, from the north of Asia, in 1550; and into North Britain about 200 years ago. Walker's Essays, p. 43. June.

112. Geranium sanguineum. Confined to the sea-shore.—D. Sea-banks at Hudshead; and on the links from Scremerston southwards, abundant, and very ornamental.—B. Banks at Burnmouth. —June–Sept.—Its beauty gains it an introduction to the garden; and it is well fitted to decorate rock-work.

113. G. sylvaticum. **The King's-Hood: Mountain-Flower.** —Occurs principally in the greywacke and syenitic districts; and hence is found abundantly in the deans amidst the Lammermuir and Cheviot hills. It is not confined, however, by geological formations

a country that has long enjoyed peace and wealth; and they are the records, as they are the proofs, of an antiquity that had looked forward to be perpetuated in a long posterity, and that was solicitous about the preservation of all its usages and fashions, of all its dignity and opulence." Dr. Macculloch.

in its distribution; and may be seen in many a Merse dean, and in those of the coal formation in N. Durham. It is a beautiful plant, flowering throughout the summer.

114. G. PRATENSE. Wild Geranium. Banks of rivers, burns and ditches, frequent, and scattered over the district. Summer. An infusion of the herb has been successfully used in chronic fluxes. See Hist. Berw. N. Club, ii. p. 176.

115. G. LUCIDUM. On rocks in deans, uncommon.—B. Banks of the Eye opposite Netherbyres, Rev. A. Baird. Between Reston and Covey-heugh, A. A. Carr. On the Whiteadder below Cockburn-law. Birgham wood, Dr. R. D. Thomson. Old walls at Dryburgh. —R. Walls at Pinnacle-hill and Gateshaw, Dr. F. Douglas. Abundant on Stitchell linn.—N. In the dean above Akeld in profusion.—Summer. A pretty plant with glossy red-tinted leaves and rose-coloured flowers, but it exhales a disagreeable smell.

116. G. ROBERTIANUM. Bird's-Eye: Wild Geranium, and sometimes Fox-Geranium,—a name which the species has received from the disagreeable scent of its leaves. "Tota planta sæpe rubra evadit; odor hircum redolet." Linnæus.—On ruins, on heaps of stones in shaded places, on old dikes in deans or with a northern exposure, in sloe brakes, "in the bodies of trees that are cut down," and in hedges with a dry bottom. It may often be seen in perfection on the thatched roof of old cottages, and on their crumbling walls, holding on by a slender root that dips between the clay chinks. A pretty white variety was gathered in Dunglass-dean, June 30, 1846. Sir Walter C. Trevelyan finds, growing on the old shingle above Sheldrake Bay in Holy Island, a variety (*β. pinguescens*) which has assumed the character of G. lucidum in its fleshy shining leaves almost destitute of hairiness, and hence also with only a faint trace of the peculiar smell of the ordinary state of the species.

117. G. MOLLE. Waste grounds and new pastures, common. A summer weed that gains increase in beauty as the autumn declines to meet the winter in November.

118. G. PUSILLUM. Waste grounds, rare. B. Sides of the foot-path below Castle-hills, abundantly. June–Sept.

119. G. DISSECTUM. Road-sides, and a common weed in new pastures on a light soil. Summer.

120. G. COLUMBINUM. Rare. B. In a field near Penmanshiel, J. Hardy. (R. Minto-crags, Dr. F. Douglas.)

121. ERODIUM CICUTARIUM. Don Gard. Dict. i. 722. Dry sandy pastures, earth-capt dikes, and waste grounds, common. The variety with white flowers is very common on the links of N. Durham. Summer.

---

14. Geranium phæum. B. "Banks of the Eden near Stitchell," A. A. Carr.—N. In Twizell-house dean, but planted there; nor have I ever seen this "alien" species beyond the sight of the garden.

122. Oxalis acetosella. Wood Sorrel. Sour-Clover: Hearts, from the shape of the leaflet: Cuckoo's-meat: Gowk's-meat: Gowk's-clover. The latter names coincide with that of this pretty flower in Gothland in Sweden, "Giokmat," and with the French "pain de coucou."—Common in deans, woods, and moors, and ascends to the summit of the Cheviots. Gregarious. April.—Turner informs us that the Oxalis was called in England Alleluja "because it appareth about Easter when Alleluja is song again;" and Mr. Bicheno has proved, in a very interesting manner, that Ox. acetosella is the Shamrock of the Irish; the substitution of the White-Clover being of modern date. See also Brand's Popular Antiquities, i. p. 108. Bohn, 1849.—Sheep eat the plant readily, and are said to be fond of it. I concur in the opinion of Linnæus that the acidity of the leaves is more agreeable and delicate than that of the lemon. The flowers appear with those of the wood Anemone, and one of greater attractions does not grace our deans. The leaflets droop in dry weather, and become erect under a moist sky. For further particulars of their irritability the reader may refer to Ann. Nat. Hist. iv. p. 390.—If we lightly press the capsule when nearly ripe, it bursts with a sudden jerk, and the seeds are projected and dispersed with great force.

123. Euonymus europæus. Spindle-tree. Deans. B. Banks of the Whiteadder opposite Edrington-Castle; and between Claribad and Hutton mills. Lumsden dean sparingly. Redpath dean. R. Banks of the Tweed above Trows'-crags, Dr. F. Douglas.—D. Kyloe crags, and on the crags at Belford, abundantly.—N. Humbledon dean; and in wooded margins of the College burn. June.

124. Ulex europæus. The Whin or Furze. This and the Coltsfoot are, I think, our only conspicuous wild plants which take "the winds of March with beauty"; and the Whin continues in bloom until the approach of the summer solstice.

> "March wind
> Kindles the ether, and blooms the Whin."
>
> "The hills are heathy, save that swelling slope,
> Which hath a gay and gorgeous covering on,
> All golden with the never bloomless Furze,
> Which now blooms most profusely."—Coleridge.

Upon our hilly and exposed cultivated grounds, and near the sea, the Whin is sometimes sown in ridges to form hedges. Used also to form fox-covers; but of more value on moors as a shelter to sheep during the drifting storm. In years of scarcity, in muirland districts, Whins bruised with the flail were resorted to as a winter-food for horses. With the blossoms children dye their "paste-eggs" at Easter. In former times the Whin was a principal article of fuel amongst us; and even so late as 1730, the "privilege of casting his whins" was reserved in leases of farms to certain specified persons.

125. U. nanus. Bot. Gazette, i. p. 288.—This is the common Whin on Wooler-common, and on the higher parts of the Cheviot hills. Summer.

126. GENISTA TINCTORIA. Rare. B. Birgham muir: near Whiterigg in Eccles: near Coldstream.—D. Longridge and Haiden deans. July.

127. G. ANGLICA. Moor-Whin: Heather-Whin: Moss-Whin. —Common throughout the Lammermuirs; and on all the heaths in N. Durham. June–July.

128. SPARTIUM SCOPARIUM = Sarothamnus scoparius. The Broom. May–June.—There are several places in Berwickshire the names of which indicate the former prevalence of this beautiful shrub in their localities; *e. g.* Broomhouses, Broomilaw, Broomhill, Broomdykes, and Broomknowes;—but its habitat of greatest celebrity is Cowdenknowes, an undulatory rising ground of great beauty in the west of the county *:

> "More pleasant far to me the Broom
> So fair on Cowdenknowes,
> For sure so sweet, so soft a bloom,
> Elsewhere there never grows."

The progress of agriculture has greatly thinned and depauperated our broomie shaws, but still the "lang yellow broom" is plentiful enough in many of our deans, and on many a steep brae, in upland districts especially. It is, says Sir Thomas Dick Lauder, "a curious fact in regard to the history of the plant, that it grows to perfection in a very few years, some seven or eight, we believe, and then dies entirely away, and then some years must generally elapse before the seed, with which the ground must have necessarily been filled, will vegetate; of this we have ourselves had large experience." Tait's Magazine, Oct. 1847, p. 657.—Sheep are very fond of the Broom, and they may be pastured upon it and Whins, in favourable situations, during winter, as an intelligent farmer, on the border of the Lammermuirs, informed me, he had often done with profit and advantage. The sheep invariably first pick off, and greedily devour, the pods, which produce a sort of intoxication, but this effect is transient, and leaves no inconvenience behind. "Spartium scoparium si ovis ingurgitet, statim temulenta evadit, decumbit, et pro tempore ambulare nequit. Hæc affectio autem usui continuo plantæ cedit." Rev. Dr. Walker.—It exerts a like intoxicating influence on man; and hence Allan Ramsay, in his address to a landlady who was famous for brewing a heady ale, tells us—

> "Some said it was the pith of Broom
> That she stow'd in her masking-loom,
> Which in our heads rais'd sic a soom;
> Or some wild seed,
> Which aft the chaping stoup did toom,
> But fill'd our head."—Poems, i. p. 219.

An infusion or decoction of the young shoots is a popular, and not

* Cowdenknowes—viz. the yellow knolls, for Cowden appears to be a corruption of Gowden or golden. In the olden time the name was spelt

inefficient, remedy in many dropsical cases.—Besoms are called, in the north, Brooms, having, until of late years, been commonly made of the twigs of this shrub. In 1554, before the Bailiff's court, a jury of twelve men found "that the yonge brome of this towne (Berwick) ought not to be cut, for it is a comodyte to this towne."

10. **Cytisus laburnum.** **The Laburnum.** In hedges, common. June. In the summer of 1852 I saw at Twizell-house, the seat of P. J. Selby, Esq., a Laburnum which bore a profusion of clusters of purple flowers, many clusters of yellow flowers, a few clusters with purple and yellow flowers intermingled, and a few tufts of the purple Cytisus having its twigs loaded with its own peculiar blossoms. These all grew on one and the same tree, sometimes on the same branch. The stock was a yellow Laburnum, on which the purple variety had been engrafted. Several instances of the same singular phenomena have been recorded. See Notes and Queries, vi. p. 7–8.

11. **C. alpinus.** Don Gard. Dict. ii. 154. **Scotch Laburnum.** In hedges, flowering about a fortnight later than the preceding. Don says that it is a native of Scotland; into which, other authors affirm, it was introduced towards the end of the 17th century. There are some large, and apparently old, trees about Chirnside Bridge, which have a glorious appearance when loaded with their golden clusters of flowers. Those that graced the grounds of Bighouse were cut down by a late proprietor to be converted into furniture; and the hedges near Charter-ha' have only recently been deprived of a row of Laburnums that had scarce their equal in size and beauty anywhere.—The seeds of the Laburnum are poisonous. See Loudon's Mag. Nat. Hist. vi. p. 74.

129. ONONIS ARVENSIS. Rest-Harrow. Sandy links, borders of fields, and in deans, common. I have gathered a variety with white flowers on the road between Norham E. Mains and Norham. June–Aug. In the season of flowering the root is dug up and eaten by children, in idleness, as a substitute for the Liquorice-root of the apothecary. The smell of the root, on being kept, is, however, very disagreeable, and hence, in our district, the plant gets the name of **Stinking-Tam.**

130. O. ANTIQUORUM, Bab. = O. arvensis β. B. On Castle-hills. July–Aug.—Mr. Banks records, under O. arvensis, some observations which go to prove that the peculiarities which distinguish O. antiquorum are the result of differences in the soil. Plymouth and Devon. Flora.

131. ANTHYLLIS VULNERARIA. Don Gard. Dict. ii. 166. **Ladies'-fingers: Craw-nebs.** Common. Sea and river banks; in the beds of our rock-bottomed burns; and occasionally on dry banks in pastures. June–Aug.

---

the Koldenknowys. Mr. R. Chambers, who has given a very nice account of the place, derives the name, however, from Coldun, a woody height. Pict. of Scotland, p. 28.

132. MEDICAGO LUPULINA. Yellow-Clover. Meadows and pastures. Sown, with other seeds, on dry sandy soils, where it answers very well.

6. *M. sativa*. Lucerne. B. Has naturalized itself on the banks of the Whiteadder near Whitehall, G. Henderson.—D. In Haiden dean. Holy-Island links, Dr. F. Douglas. Has been gathered in several other stations, but not permanent in them, and it would soon disappear from our district were it not occasionally imported anew with seed of corn and grasses. The Lucerne, says Link, is not a native of Europe, for it only grows wild where it is now cultivated, or formerly had been. Our farmers neglect it.

133. MELILOTUS OFFICINALIS = Trifolium officinale. D. "By the path to the bathing well at Cornhill, near a streamlet," Wallis. —B. Sea banks of the Maudlin fields; and in pastures near Northfield. Plentiful on the banks of the Tweed about Coldstream, Miss E. Bell. Birgham or Briggeham haugh, Dr. R. D. Thomson. July.

134. M. VULGARIS = M. leucantha, Hooker Brit. Fl. (1830) i. 327.—N. Coupland plantations near Wooler, J. Mitchell. B. About Berwick Castle; and on waste ground between it and Castle-hills. It abounded in this locality in the summer of 1842: in the following summer only a few plants appeared; and in a year or two afterwards not a specimen was to be got. Mr. Watson considers it an alien because of its "fugitive endurance, and the suspicious nature of its localities." I do not assent. Let the ground be stirred up anew, and we should again have plenty of the M. vulgaris in its old locality; —again to die away,—and to revive again when circumstances favoured the growth. Experiments almost assure us that of all plants the Leguminous have seeds which retain their vitality longest. Botanical Gazette, iii. p. 105.

135. TRIFOLIUM REPENS. Don Gard. Dict. ii. 188. Dutch or White-Clover: Sheep's-Gowan: and the flowering heads are our White-Sookies.—Meadows and pastures, everywhere. "White Clover is one of those plants that grow in almost all soils and all situations, and being a true perennial, is always sown in this district where lands are intended for permanent pasture." Bailey and Cully's View, p. 115. There is a very general belief that white Clover will appear in abundance on our moors when the soil is turned up for the first time and lime applied*; and the phenomenon is always mentioned as mysterious and inexplicable. See Winch's Geogr. Essay, p. 17: Quart. Rev. xxxvi. p. 586. Mr. Watson has apparently solved the problem and dissipated the wonder. The fact is not a fact, but an inference founded on imperfect observation. Cyb. Brit. i. p. 291.—The scent from a white-clovered field in flower, floated on the summer breeze, is very sweet; and then the field is alive with myriads of active bees.—A variety with purple leaves sometimes occurs

* In Notes and Queries, vi. p. 112, the version is thus given:—"On a Scotch moor, too, after a fire sufficiently strong to destroy the roots of the heather, Clover invariably appears." Is this a fact?

wild, and this is cultivated for the Shamrock.—The flowers are sometimes rose-coloured; and plants so tinted may be seen growing on Spittal links almost intermingled with the white race.

136. T. PRATENSE. Don Gard. Dict. ii. 183. Clober. Meadows and pastures, common. The variety sativum, said to have been introduced to Britain by the Romans almost immediately after their invasion and settlement (Whitaker's Manchester, i. p. 318), was introduced into Berwickshire husbandry by Lord Kaimes in 1750, and is extensively cultivated under the name of Red or Purple Clover. The flowered heads are called by the common people sookies or sucklers,—a name which occurs in the "Gentle Shepherd" of Allan Ramsay:

> "Under that tree, and on the suckler brae,
> Where aft we wont, when bairns, to rin and play."

A "foure levit claver" has, from an early period, been associated with the mysteries of fairie-land; and to this day our children deem themselves destined to be lucky, when they find one*. Beliefs of this kind will continue to influence posterity, for they are permanently rooted in that stage of life which corresponds, in its credulity and faith, with the age of society in which the beliefs originated.

137. T. MEDIUM. Cow-grass: Wild Sookies. In meadows and deans, common. July.

138. T. ARVENSE. Sandy barren fields, uncommon. B. Banks of the Eye opposite Netherbyres: Pease-dean: Sea banks below Dulaw, at Siccar-point, and near the Cove-shore.—D. Heugh of Holy-Island.—R. Banks of the Tweed below Kelso, Dr. F. Douglas.—N. Bed of Wooler-water above Wooler.

139. T. STRIATUM. Dry pastures and banks covered sparingly with soil, of occasional occurrence throughout the district. R. Stitchell brae, abundantly. Trans. Berw. N. Club, ii. 169. June.

140. T. SCABRUM. Rare. D. Rocky banks near the Priory of Holy-Island, and by the shore at the harbour.

141. T. FRAGIFERUM. On a light soil liable to be inundated; and hence common on the sides of our rivers where flat. It abounds in many places along the Whiteadder, and the Tweed. Autumn.

142. T. PROCUMBENS. Dry gravelly fields and banks, common. June–July.

143. T. MINUS. In similar localities with the preceding, and more

* "Many years ago, ere George the Third was king, a girl who lived near Nether Witton, returning home from milking, with her pail upon her head, saw many fairies gambolling in the fields, but which were invisible to her companions, though pointed out to them by her. On reaching home, and telling what she had seen, the circumstance of her power of vision being greater than that of her companions was canvassed in the family, and the cause at length discovered in her weise, which was found to be of four-leaved clover." Borderer's Table Book, viii. p. 46.

common. Dwarf specimens constitute a considerable proportion of the vegetation of the light gravelly haughs which lie along the courses of our upland burns, as, *e. g.* of the College-burn from Hethpool Linn to its union with the Glen. These specimens are very neat, scarcely more than an inch in height; and, having only five or six flowerets in a head, they are apt to be mistaken for T. filiforme.

144. LOTUS CORNICULATUS. Craw-tars: Cat's-Clober.—The "Crow-toe" of Milton, and the "Crow-flower" of Drayton, but not the "Craw-flower" of Tannahill. Indeed I am not able to say what the latter is, and it was a favourite plant with this poet. He describes it as being "blue," and as having an "early bell"; and again he mentions it as the "mild blue spreckl'd crawflow'r." Probably Tannahill had the Scilla nutans in view.—Common in pastures, on moors, on grassy and scarry banks, over the front of which it often hangs in beautiful tufts. The variety named villosus, from the herbage being hairy, has been found in B. Langton woods, and near Bunkle, by the Rev. Thomas Brown; and the variety tenuifolius (= L. decumbens, Eng. Bot.) occurs occasionally in barren pastures, on a clay soil.

145. L. MAJOR. Babington Prim. Fl. Sarn. 27. Banks of ditches, boggy pastures, and in deans, common. July–Aug.

146. ASTRAGALUS GLYCYPHYLLOS. D. "In great abundance on the brow of a hill, called Cockle-hill, at Learmouth, near Cornhill. About the old ramparts at Wark-castle, on the banks of the Tweed, by the road to Carham. In the hilly pastures at Mony-laws, under Flodden-hill." Wallis.—B. In the ravine above the village of Ross in the parish of Mordington: Sea-banks between Siccar-point and the Pease-dean. Banks of the Whiteadder, a little beyond Claribad Mill, plentiful, Dr. R. Dunlop. By the quarry at Whitehall, G. Henderson. Abundant on Tweed braes, a few yards east of Lennel Church-yard, Jonathan Melrose. On the sea banks at the Ewelairs, between the foot of the Pease-burn and the Cove-shore, J. Hardy.—N. Banks of Wooler-water above Coldgate Mill. Sea banks near Bambrough, Dr. F. Douglas.—R. In the dean of Newtown St. Boswells.—July–Aug.

147. A. HYPOGLOTTIS. Abundant on green-swarded sandy parts of the coast of Berwickshire, as at Coldingham bay, Lamberton Shiels, St. Abbs, and Redheugh.—D. On Spittal links; on the links beyond Scremerston; and on Holy-Island. June.

148. VICIA LATHYROIDES. Dry gravelly and sandy places, rare. D. Heugh, Holy-Island, Thompson.—N. Chapel-hill, Belford; and other basaltic heights between it and Bambrough, Thompson.—B. On the rocky banks of Ale water. Sea banks near Ernesheugh camp, A. A. Carr. Foot of Dunglas dean, J. Hardy. May.

149. V. SATIVA. The Tare.—The indigenous plant is frequent in old moorish pasture ground, and it loves the company of the Whin. The narrow-leaved variety (V. angustifolia, Sm.) has been found amongst whins at Belford in Roxburghshire by Dr. F. Douglas.—

The cultivated variety is grown principally for cutting as green food for horses, to supply the vacancy between the first and second cuttings of red clover; and for their harvest food during their then incessant labour.

150. V. SEPIUM. **Wild Tare.** In deans, meadows, and at hedge-bottoms, common. We sometimes meet with a white-flowered variety. June.

151. V. CRACCA. **Wild Tare.** Rough boggy fields, and in hedges, where it is very ornamental. July–Aug.

152. V. SYLVATICA. Wood Vetch: **Wild Pea.** Deans and brakes, abundantly. B. Along the whole range of our sea-banks, but most profusely about the Needle-eye, below Lamberton Shields, in the ravine above Ross, and in similar localities. Banks of Ale water. On many parts of the banks of the Whiteadder; and on the Tweed at Dryburgh. Redpath dean in the west; and on the east in Red-Clues Cleugh, and Penmanshiel wood.—D. Tweed banks beyond Ord Mill. This locality possesses considerable interest. It is the frontage of an old Roman camp, or "Chester knows"; and there Charles I. pitched his tent, May 28th, 1639, when on his march northwards against the Scotch covenanters. The place was then called "the Birks, two miles west of Berwick." Bord. Table Book, i. p. 260. A concealment in the face of the precipice is still known as the "King's cove."—For a minute account of the place see Raine's Hist. N. Durham, p. 11.

153. OROBUS SYLVATICUS. Light. Fl. Scot. 390. pl. 16. = Vicia orobus.—B. Howpark dean; and on a wooded bank between Grant's-House and Penmanshiel. Above the Rigg-wood on the Eye, J. Hardy. Near Longformacus; in the Snail's-Cleugh; and on a whinny bank between Millknowe and Priestley.

154. ERVUM HIRSUTUM = Vicia hirsuta. Corn-fields, meadows, and waste grounds, a common weed. June–Aug.

12. **Faba vulgaris.** Don Gard. Dict. ii. 312. **The Bean.** Cultivated from time immemorial; and we may conclude, almost certainly, that it does not grow wild near the Caspian Sea on the borders of Persia, as stated by Willdenow, Sp. Plant. iii. p. 1111. The kinds cultivated are the large and the small Horse bean, and sometimes the Mazagan, which ripens earlier, but is not productive.

13. **Pisum arvense.** **The Field or Gray Pea.** "Were formerly a more general crop than at present: they are mostly grown upon such lands as have been worn out by too long continuance in ploughing. The early and late Grey Pease are the principal kinds cultivated here." Bailey and Cully's View, p. 90. See also Kerr's Berwickshire, p. 249.

155. LATHYRUS PRATENSIS. **Craw-pease.** Meadows and pas-

15. Lathyrus nissolia. "Mr. Embleton intimates to me that it has occurred (to whom?) near Leitholm, in Berwickshire." Watson Cyb. Brit. i. p. 323. There is some mistake here, which I cannot explain.

tures, common. This is probably the "Mouse-pea" mentioned by Mr. Kerr. "There was formerly grown in Scotland, a species of vetch, tare, or lentil, of considerable size, called provincially the Mouse-pea, but which is hardly ever to be met with now. This has sometimes been suggested as a probably good substitute for tares." View of the County of Berwick, p. 265.

156. L. SYLVESTRIS. B. Wooded banks of the Whiteadder opposite Hutton-mill, in great abundance, Dr. R. Dunlop. July–Aug.

157. OROBUS TUBEROSUS. Don Gard. Dict. ii. 339. Heaths, deans, whin-loving banks and broomie braes, all of which it adorns. May–June.—The leaves vary exceedingly in size and breadth. The variety *tenuifolius* (= Or. tenuifolius of Don in Wern. Mem. iii. 301), with very narrow linear leaves, has been occasionally gathered in our district, and on the same bank with the common kind.—School-boys in Berwickshire call the roots Liquory-knots, for, when dried, the taste of them is not unlike that of the real liquorice. The seeds are their Mouse-peas.

Living specimens of OROBUS NIGER were shown to the Club in the spring of 1852 by Mr. Tate, who had gathered them in Roddam dene, but the habitat being on the south side of it, is just beyond our limits.

158. PRUNUS SPINOSA. The Sloe or Slae. On the precipitous banks of deans and on braes, where the shrub forms an impenetrable brake wherein our little songsters can nestle in security. April: and our ancestors watched the time, for, said they,

> "When the Slae tree is white as a sheet,
> Sow your Barley, whither it be dry or wet."

The austere fruit is eaten by schoolboys after it has been ameliorated by the frosts of winter. One of the occupations of the "shortest day," after the "barring out" had gained a holyday, used to be a foray to the Slae-berry braes. I have more than once been of the party. Sloe sticks are prized, because they are very knobby, straight and dark-coloured, and firmer than those of other shrubs.

7. *P. insititia.* Old hedges occasionally. B. "In hedges about the abby of Mellross," Lightfoot. Near Horndean. April–May.

8. *P. domestica.* Wild Plum-tree. D. On the banks of the Till in the glen at Twizel-castle*. In the hedge at the Dovecot of Haggerston. April–May.—This and the preceding are undoubtedly states of P. spinosa.

* "The ancient bridge of Twisel, by which the English crossed the Till, is still standing beneath Twisel Castle, a splendid pile of Gothic architecture, as now rebuilt by Sir Francis Blake, Bart., whose extensive plantations have so much improved the country around. The glen is romantic and delightful, with steep banks on each side, covered with copse, particularly with hawthorn. Beneath a tall rock, near the bridge, is a plentiful fountain, called St. Helen's Well." Sir Walter Scott. Note xiv. to Canto vi. of Marmion.

159. P. PADUS. Bird-Cherry. Is found in almost all our wooded deans as a shrub; but, when planted and allowed to grow unchecked, it becomes a considerable tree, very beautiful when in flower. There is a fine specimen in the garden at Newwaterhaugh. The shrub is called Hackwood, and the fruit Hackberry or Hagberry. It has the same name in Westmoreland and Cumberland; and in Sweden we also find it named Hågg, which, it seems, means Hedge-berry. Linnæus says—"Baccæ nauseosæ à quibusdam sale adspersæ avide ingurgitantur;" and Mr. Hodgson tells us that the fruit is eaten in the mountain districts of Cumberland. In Berwickshire, on the contrary, the fruit is reckoned poisonous, and children are taught to avoid it.

160. P. AVIUM. Cerasus avium et C. juliana, Don Gard. Dict. ii. 505. The Gean-tree. Occurs in some of our wildest deans, *e. g.* in Dulaw dene, and in Blackburn-rigg wood, &c.; and often naturalized in plantations and in hedges. It might be cultivated with advantage to a larger extent. "As an ornamental tree it is also well worth cultivating, as it produces a profusion of flowers from an early age, and at an early period of the year; these, from their snowy whiteness, contrast well with the blossom of the almond and the scarlet thorn. Its foliage, also, is handsome, though rather too uniform and unbroken to produce picturesque effect; in the autumn, when it assumes a deep purplish-red colour, it gives great richness to the landscape, and contrasts well with the yellows and browns which predominate at that season." P. J. Selby, Brit. Forest Trees, p. 63.—The justness of these remarks of our distinguished colleague will not be disputed by any member of the Club who has had the pleasure of seeing the fine Gean-trees on the haugh of the Blackadder at Allanbank in May.

9. *Spiræa salicifolia.* Sometimes planted out in woods, and common in shrubberies, but scarcely naturalized. B. Marchmont woods, Dr. R. D. Thomson. It used to grow almost in a thicket in a belt of plantation which led from Chirnside to the Blue-stane ford, but it was eradicated thence, when the trees were cut down a few years since. July.

161. SP. ULMARIA. Meadow-Sweet: Queen-of-the-Meadow, and not unworthy of the name. In the olden times, when, even in our district*,

> "With rose and swete flores
> Was strawed halles and bouris,"

and for an account of which custom we refer the reader to the British

* In 1364, the Vicar of Norham agrees, on his part, duly to serve the church, and supply it "with strewments"; viz. with rushes and herbs to strew the floor. Raine's Hist. N. Durham, p. 278.—In 1528 when Atholl entertained the Queen and her son James V. in the Highlands, a "fair palace," built for the occasion, had its principal rooms "laid with green scarets, spreats, medworts, and flowers, that no man knew whereon he trod, but as if he were in a garden." Strickland's Queens of Scotland, i. p. 240. —The Medwort is the Meadow-sweet. See Lyte's New Herball, p. 48.

Quart. Rev. Nov. 1851, p. 382, this plant was in high estimation, for "the leaues and flowres farre excell all other strowing herbes, for to decke vp houses, to straw in chambers, halls, and banqueting houses in the sommer time; for the smell thereof makes the heart merrie, delighteth the senses: neither doth it cause head-ache, or lothsomenesse to meat, as some other sweet smelling herbes do." Gerarde. Notwithstanding this authority, our border matrons say that, if smelled at too much, the Queen-of-the-Meadow will cause people to take fits. It is reckoned wholesome for cattle when amongst meadow-hay.

162. Sp. FILIPENDULA. Very rare. B. Belches-brae wood near the Lees, Miss E. Bell. July.

163. GEUM URBANUM. Avens. Woods and hedges, common. May–Aug.

164. G. INTERMEDIUM. I find this plant scattered over the district, but always sparingly in every locality. Thus a single specimen only could be found on the bank of the road which leads from Norham-bridge into Berwickshire. I have seen it growing in the same way in hedges near Netherbyres; and near D. Berrington. July.

165. G. RIVALE. Water Avens. Sides of streamlets, burns, and ditches, and in boggy woods and meadows, common. A monstrous variety with a showy rose-like flower, and which is apt to become proliferous, is occasionally met with in our deans.

RUBUS. = Bramble*.

In studying the species of this genus I have been enabled to avail myself of Weihe and Nees von Esenbeck's work on the German Rubi through the kindness of Professor Balfour. I have also consulted the writings of Borrer, Smith, Leighton, Lees, Babington, and Bell Salter; but I have scarcely referred to some "authentic specimens" which I possess through the liberality of botanical friends. I attach little importance to "authentic specimens" in general; and it seems to me almost absurd to make them override, or even equal to, printed descriptions. For instances of the confusion to which

* Johnson says of the Bramble,—"It is taken, in popular language, for any rough prickly shrub." I do not think our vulgar give so wide a signification to the name; but they do not always distinguish the Bramble from the Brier,—both, in some phrases, are Brambles. And so it was with our older authors. For example, Drayton says,

> "Then thrice under a Brier doth creep
> Which at both ends was rooted deep,
> And over it three times doth leap," &c.

This Brier is a botanical Bramble; but, in the following quotation, the Bramble of the Poet is the Briar of the Botanist:

> "But he was chaste and no lechour,
> And sweet as is the bramble flour
> That bereth the red hepe."—CHAUCER.

reliance on authentic specimens leads, the reader may consult Turner's Synopsis of the British Fuci, i. p. 4, &c.; and Leighton's Flora of Shropshire under the present genus.

The following analytical table may assist the student in determining the names of our Eastern Border shrubby Brambles:—

A. Stems erect or nearly so.
  Leaves white underneath ..... R. idæus.
  Leaves green on both sides ..... R. plicatus.
B. Stems arched or trailing.
  * Stem smooth, glabrous or slightly hairy.
    † Lower leaflets overlapping.
      T. leaflet cordate, the lower stalked .. R. nitidus.
      T. leaflet rhomboid, the lower sessile.. R. corylifolius.
    †† Lower leaflets separate, retroflexed.
      § Stem angular.
        T. leaflet obovate cuspidate green beneath ..... R. macrophyllus.
        T. leaflet obovate cuspidate white beneath ..... R. rhamnifolius.
        T. leaflet cordate cuspidate green .... R. cordifolius.
      §§ Stem roundish.
        T. leaflet suborbicular cuspidate green R. mucronatus.
        T. leaflet cordato-ovate acute..... R. carpinifolius.
  ** Stem villous, the hairs patent..... R. leucostachys.
  *** Stem rough with setæ and glands, angular.
    † Leaves 5-nate, lower leaflets stalked.
      Stem furrowed or concave between the angles..... R. rudis.
      Stem convex or plane between the angles..... R. radula.
    †† Leaves 3-nate or 5-nate, when the l. leaflets are sessile ..... R. Koehleri.
  **** Stem setigerous, round and glaucous.. R. cæsius.

166. Rubus idæus. The Rasp or Raspberry.—Stem round, glaucous, prickly; leaves white beneath, the terminal leaflet heart-shaped acute, irregularly lobed and serrate, serratures mostly mucronate.—Common in woods and deans. On the edge of a wood, or along the shelter of a dike in our muirlands, it frequently forms a sort of copse with the Braken. It likes also to grow amongst whins. June.

167. R. plicatus. W. and E. tab. i.—Stem angular, smooth, striate, with prickles on the angles; leaves green, the terminal leaflet cordate-acuminate or broadly ovate and pointed, crenato-serrate, entire at the base, the lateral leaflets often lobed below.—In denes, rare. B. Blackburnrigg dean, where I gathered it with Mr. Hardy; who finds it also in Birchiebank, Penmanshiel, and Akeside. Banks

of the Whiteadder near the Retreat.—D. In copses on Kyloe crags. —N. In the upper part of Twizell-house dean, P. J. Selby.

The barren stems are as erect as those of the Rasp, 3 or 4 feet in height, slender, green, pentangular, naked, striate, armed on the angles with rather small yellowish prickles dilated at the base; the prickles are not usually numerous, and they are either straight or a little curved: the leaves are thin, flexible and green, quinate; the stalk armed with a few small curved and retroflected prickles, which run half-way up the midribs: leaflets stalked, the lower and intermediate pairs from a common pedicle, the terminal leaflet cordato-ovate, acuminate, unequally serrate, often lobed on one side, the upper surface even and naked, the inferior paler and glossier and covered with a very short inconspicuous hairiness.—The flowering stems are often laid; they have fewer and smaller prickles, and the surface is more or less blistered: the leaves are ternate on a hairy stalk, and the terminal leaflet is ovate-acute. They bear racemes of comparatively few flowers, which are small and white; and the fruit is rarely matured. It consists of a few black drupes. The peduncles are more or less hairy; the sepals snow-white on the margin, often with two or three yellowish prickles at the base, and pointed but not leafy at the point. —There are never either glands or setæ on the stem, but I have seen it clothed with silky hairs. The leaves are frequently lobed, and sometimes incised; and on some barren stems leaves with 3, 4, and 5 leaflets are found. The young leaves on both barren and fertile shoots are pubescent. The foliage is often eaten and made ragged by a caterpillar.

The figure of Weihe and Nees von Esenbeck is an excellent representation of our species; but, in the description, it is said that the inferior leaflets are sessile,—"foliolis lateralibus inferioribus maxime sessilibus,"—which is not the case in our specimens. Koehlerus says:—"Erectus crescit, uti Rubo idæo mos est, nutatque demum apice; distinguitur situ verticali, brevitate trunci, rectis aculeis, maxime vero foliolo terminali cordato in omnibus;"—which is all correct, provided we restrict the description of the leaflet to the barren shoot.—I have a specimen of what is identical with our species labelled "R. suberectus" by a contributor to the Botanical Society of London; but the true R. suberectus is different.

168. R. NITIDUS. W. and E. tab. iv.—B. Banks of the Eye between Reston and Covey-heugh mill abundantly.

Weihe and Nees von Esenbeck's figure represents our plant very well, and removes some doubts that a close collation of the description with the specimens might raise. It is a fine bramble with glossy foliage; and its barren shoots, which, when even unsupported, are occasionally suberect, curve themselves as they elongate to form an arching branch that ultimately may touch the ground; but some shoots from the base trail along the surface. Barren stem angular, glabrous and even, glossy, of a reddish colour, with straight prickles on the angles,—the prickles sufficiently dilated at the base, which is purplish-red, while the point is yellowish: leaves quinate, the stalk glabrous or only slightly hairy, armed with numerous curved prickles;

leaflets all stalked, rather rigid, glossy-green, uneven and folded, very sparingly hairy on the upper surface, more so underneath and paler, with the nervures of a reddish tint, and the midrib armed with hooked prickles, the margins unequally serrated; the terminal leaflet cordate obliquely acuminate and much similar to that of the Lime-tree: stipules narrow linear-lanceolate, hairy.—The fertile stem is always glabrous, less distinctly angular, and with fewer prickles, which are straight and deflexed; the flowering branches glabrous or somewhat hairy, and armed with curved prickles; leaves ternate, the lateral leaflets almost sessile and overlapping; panicle leafy, its branchlets spreading and rigid; peduncles hairy, with or without a few sessile glands; flowers rose-coloured and of medium size; the sepals broadly ovate with or without a leafy point, and with a white tomentose margin, spreading after the fall of the petals.—So far as our Flora is concerned, this appears to be a very distinct species, which I have only met with in the station indicated. The specific character assigned to R. plicatus would suit it well, and I have a specimen so named by Mr. Edwin Lees, from the London Botanical Society; but our R. nitidus is very different from our R. plicatus, and is a genuine bramble. It flowers freely in July and throughout the remaining summer, and bears plenty of fruit in autumn.

169. R. CORYLIFOLIUS. Woods in Hooker's Brit. Flora (1830), i. 248.—Common in hedges and in deans.

Barren stems long and arching, green but often purpled, especially in autumn, polished, obtusely pentangular, smooth and naked, armed

with prickles mostly seated on the angles; prickles usually numerous, straight, often deflexed, with a dilated base coloured like the stem: leaves quinate, pedate, on a slightly pilose stalk armed with a few recurved prickles; the partial stalks rather more pilose; stipules narrow, lanceolate, elongate, hairy; terminal leaflet cordato-ovate or often somewhat rhomboid with an acuminate point, $3\frac{1}{2}$ inches long, $2\frac{6}{10}$ths broad, rugose, irregularly serrate, soft and flexible, green, the upper surface naked, the under a paler green and hairy on the prominent nervures and veins; lower leaflets sessile and decidedly overlapping the intermediate pair.—The flowering stems are often blistered. They are less angulated and are furnished with more numerous prickles. They throw off numerous flowering branches, which are downy, almost round, and have a few scattered prickles. Sometimes these branches are not above 4 inches in length, and at other times they exceed 2 feet. The pedicles of the flowers are downy, and minute glandular setæ are almost hidden in the down. All the leaves are ternate, and the leaflets are often deeply cut or laciniated, one of the lower pair being lobed. The flowers are white with rumpled petals. The downy calyx is patent or reflexed, and its segments are ovato-concave with a small point. With a glass only can the setæ that nestle in the hairiness be discovered. Anthers at first pale greenish-yellow, becoming of a rich coffee-brown in maturity; the styles thickened upwards, yellowish-green, changing to pink and brown, and becoming curved like a sickle previous to their fall. Fruit black.

This is a common and a favourite species with me. There is no figure of it in Weihe and Nees von Esenbeck's great work. It is the first of our Brambles in flower, and ornaments our hedges with its pure white and copious blossoms. Dr. Bell Salter says that these are "rather small," which is the case on some plants, but on more individuals they seem to exceed the flowers of all other species in size. It is not rare to find flowers with 4, or even with 3 petals; yet oftener they show a tendency to double. I have gathered specimens with numerous petals near Penmanshiel; and the bramble which grows on a bank in front of the house at Foulden-deans, with double flowers that rival those of the double-flowered Cherry, appears to belong to this species.—The barren stems in autumn often take root in the soil, and hence we find as often the shoot of the following year with a rosette of leaves at its broken-off extremity.—There is a variety with pink flowers. This always grows in shaded hedges averse from the sun.

The R. corylifolius of Mr. Babington in Ann. and Mag. N. Hist. Ser. 2, ii. p. 34, is apparently different from our plant.

170. R. MACROPHYLLUS. Borrer in Hooker's Brit. Fl. 1830, i. p. 247.—In moist shaded deans and occasionally in old hedges. N. In the dean at Twizell-house: in the wood on Belford Crags.

Barren stems very stout and much elongated, often branched, arching nobly, obsoletely angular, dull green and only slightly browned on the exposed side, smooth and glabrous or somewhat hairy, and armed with numerous straight prickles which are of moderate size and dilated at the base with a pungent point. Leaves 5-nate, large, thin and flexible, dark green above and scarcely paler underneath, sparingly hairy, on a

rather short triangulate hairy and prickly stalk which is thickened at its origin, where there are a pair of very narrow comparatively small

stipules: Leaflets all stalked and geniculate, unequally crenate, the lateral pairs obovate, cuspidate; the terminal one roundish-obovate, cuspidate, narrower and sinuate at the petiole.—Flowering branches large and elongated, often more than a yard in length, more or less divided, the branchlets erecto-patent, roundish, hairy, armed with small prickles: Leaves 5-nate, 4-nate, but mostly 3-nate, thicker than those of the barren stems but of the same figure: Panicle downy with elongated straight prickles, and a very few scattered stalked glands, which are easily overlooked: Segments of the calyx lanceolate, ultimately reflexed: Flowers white, often not numerous, and many of them abortive: Fruit large, becoming black in ripeness and very juicy.

I find the young barren stems to be decidedly angular, and more hairy than the old stem when it has become as thick as a man's thumb. Some of these stems have all the leaves quinate, in others they are all ternate; and the inferior surface is soft and almost pubescent. When again the old stem throws off lateral branches, I find many setæ on some of these side branches, probably from their being more or less buried in the herbage around them.

I have been assured by three botanists separately that our plant is the R. macrophyllus. It agrees well with Mr. Borrer's description of this species, excepting that he says the stem is "furrowed," which it is only after being dried. It does not, however, agree with Weihe and Nees von Esenbeck's figure of R. macrophyllus, for not a leaflet has a cuspidate apex in their plate, nor is this mentioned in the description. Our plant is more certainly their R. Schlechtendalii, 34. tab. xi.; and we have specimens in which the point of the sepals is foliaceous and twisted in the bud. It is our largest Bramble; and is surely distinct from R. rhamnifolius, with which, "in technical characters," it almost agrees.

171. R. RHAMNIFOLIUS, "caule decurvo angulato sulcato aculeato glabro, foliis quinatis suborbiculatis cuspidatis subtus cano-tomentosis, panicula composita et decomposita conferta ramis divaricatis, calycibus patentibus basi aculeatis." W. and E. 22. tab. vi.

Hedges and brakes, common. N. Near Ford.—Barren stem arching, dull green or purplish, angular and sulcate, smooth or only thinly clothed with silky hairs; prickles confined to the raised angles, equal and stout, moderately numerous, yellowish with a dilated base, pointed backwards or nearly straight. Leaves quinate, on a rather long hairy striated stalk armed with numerous curved prickles which run up on the midrib of the leaves: Stipules very narrow, ciliated: Leaflets (fig. 3, *a*) all stalked, rigid, ovate, cuspidate, narrowed and subcuneate at the base which is entire while the rest of the margins is neatly but unequally serrate, the upper surface green and sprinkled with hairs, the lower greyish, pubescent, with hairy nervures.—Fertile stems angular, naked, more or less blistered, with curved prickles on the angles: flowering branches angular, hairy and prickly; the leaves ternate with ovate cuspidate leaflets: panicle straight and leafy, with short patent branchlets which are few-flowered, downy and prickly, but not glandular: sepals with a short mucro, eglandulose, spreading,

becoming reflexed in fruit.—This is a neat Bramble of average size, with smaller leaves than any of its congeners. The lower pair are strongly bent backwards. It bears fruit freely.—The description of Weihe and Nees von Esenbeck answers better to our plant than their figure.

172. R. CORDIFOLIUS.—Barren stem reddish, angular, striate when dried, smooth with a few hairs; prickles of moderate size and number, straight, confined to the angles; stipules narrow-lanceolate, glandular; leaves quinate, rather coriaceous, green on both sides, even and almost naked above, hairy on the nervures underneath, serrate, entire towards the base; lower leaflets reflexed and stalked, ovate, cuspidate, the terminal leaflet (fig. 3, *b*) orbicular, cuspidate, on a rather long pedicle:—The flowering branch is villous, furrowed, with patent or deflexed prickles, and ternate leaves; the lower leaflets often lobed, the terminal like that of the barren stem, but becoming ovate on the panicle. Branchlets of the panicle patent, villous with a few stalked glands and many long prickles which are crowded at the base of the calyx; sepals downy, scarcely glandular, with a distinct mucronate point; petals white.—I have a specimen from Lamlash in Arran, identical with our Berwickshire plant, labelled by Mr. Babington R. cordifolius,—a name which I have adopted. In the last edition of the Manual this is made synonymous with R. rhamnifolius; but our R. rhamnifolius and R. cordifolius are not the same species. And it is distinguished from R. carpinifolius by the form of the leaflet, which, in our plant, is cuspidate; while in R. carpinifolius it tapers gradually to the point. In hedges and copses, rare.

173. R. MUCRONATUS, Bloxam in Ann. and Mag. N. Hist. Ser. 2. vi. 491. Bab. Man. 97; Babington in Ann. cit. ix. 126.—Hedges and copses, rare.—Barren stem arched or trailing, long and stout, roundish or obsoletely angular, reddish-brown or dull green, distinctly striated, very sparingly furnished with silky hairs and glandular setæ, more copiously with prickles, which are scattered, small, straight, moderately enlarged at the base, purplish with yellow tips. Leaves 4-nate or 3-nate, on purple somewhat downy and glandular stalks armed with curved yellowish prickles which run up the midrib of the leaflets: these are stalked, green on both sides, with a few scattered short hairs on the upper side, while the nervures and veins of the under side are a little more hairy, the margins crenato-serrate, the serratures ciliated and each tipped with a distinct mucro; lower leaflets lobed; the terminal (fig. 3, *c*) roundish with a small sinus at the insertion and a short cuspidate point. Stipules small, narrow lanceolate, glandular and hairy. The barren stem is absent in my specimens. It produces very long flower branches which are angulated, brown or dull green, downy, armed with deflexed bristles, which are longer and straight on the upper parts of the panicle and its side branchlets, but not very numerous; and the glandular setæ are but sparingly visible amidst the down. Leaves 3-nate, similar to those of the barren stem; the uppermost simple and ovate. Branchlets many-flowered, erecto-patent; the flowers rather small and white: calyx greyish-green,

downy with almost sessile glands, reflexed, pointed with a very short mucro.

I distinguish this large Bramble by its roundish sulcated stem, by its small prickles, by its comparative baldness, by the fewness of its setæ and glands, and by its rounded naked leaves. These are not quinate in any specimen I have seen. It seems to have some affinity to the R. vulgaris β. umbrosus of Weihe and Nees von Esenbeck; and, in the form of the leaflets, agrees pretty closely with their R. fusco-ater, but differs in such other particulars as to render their conjunction impossible.

174. R. CARPINIFOLIUS, "caule decurvo anguloso aculeato parcius piloso, ramo florigero piloso, foliis quinatis cordato-ovatis longe acuminatis argute duplicato-serratis, supra subpilosis, subtus velutino-canis, panicula composita, ramis patulis apice corymbosis." W. and E. tab. xiii.—This is a conspicuous Bramble in our hedges, distinguished by its long lithe purplish-brown shoots which are obtusely angled or almost round, even and glabrous, but roughish to the touch from

obscure points and a few imperfect setæ. The prickles are of moderate size, not numerous, with a purplish dilated base and a straight yellow pungent point. The leaves are dark green, 5-nate, with flat spreading leaflets, on a purple stalk armed with curved prickles and a few setæ: Leaflets all stalked decidedly, coriaceous, cordato-ovate, tapered to a point, glabrous on the upper surface, hoary beneath with prominent veins and hairy nervures, and the margin irregularly serrated with purplish serratures (fig. 3, *d*). The flowering branches are elongated, striate, hairy or villous with deflexed prickles and numerous glandular setæ. The sepals become perfectly reflexed, are glandular, and have a rather long mucronate point. The flowers are pale pink, and continue to be evolved until late in autumn.

Dr. Bell Salter has a variety *β. roseus*, in which the flowers are bright rose-coloured. A bramble so distinguished is also met with in our hedges; and in habit and mode of growth, it agrees with R. carpinifolius; but I rather refer it to R. rhamnifolius because of the shape of the leaves. The stem wants the asperities which are usually found on that of R. carpinifolius; and there are only a very few glands on the sepals and amidst the hirsuties of the panicle.

175. R. LEUCOSTACHYS.—In deans occasionally. The following description is made from specimens sent to me from Twizell-house by Mr. Selby:—Barren stem arching as usual, purplish-brown on the exposed and dull green on the shaded side, hairy, angular, sulcate; the prickles rather numerous, of medium size, placed mostly on the angles, with a reddish base and a yellow apex. Leaves ternate, rarely 5-nate, on a rather short hairy purplish stalk, armed with a few recurved prickles which are continued up the midribs: Stipules linear-lanceolate, hairy and ciliated, with sometimes a few marginal glands: Leaflets on downy somewhat prickly stalks, green above with a very few short scattered hairs, greyish-green beneath with hairy nerves and veins, unequally and irregularly crenato-serrate, the inferior leaflets more or less lobed, the terminal broadly ovate or cordato-ovate, shortly cuspidate, the length little exceeding the extreme breadth.—Flowering branches green, striated, and hairy, with only a few small deflexed prickles which become more elongated and herbaceous on the upper parts: Leaves 3-nate, with large thin leaflets, not so hairy beneath as those of the barren stem but agreeing with them in form: Branchlets patent or erecto-patent with from 7 to 3 flowers and with stipular-like bracteæ, pubescent, without or with a very few glands: Flowers rather large, pale rose: calyx hoary and glandular, the segments reflexed after the fall of the petals, and pointed with a minute mucro.—To this species I refer R. macroacanthus, R. villicaulis, and several varieties of R. vulgaris of the Rubi Germanici.

176. R. RUDIS. At the sides of woods on a heathy soil and in deans. It is a common species in Penmanshiel. I have never seen it in a hedge.—A strong coarse bramble with powerful shoots that curve in low arches or trail along the ground. The barren stem is as thick as a man's finger, green or dull-purple, with 5 prominent angles so that the space between is concave or channeled, armed with nume-

rous stout straight yellowish prickles (not all seated on the angles), and with numerous sharp setæ and short rigid hairs. The stipules are narrow-lanceolate, eglandular. The common stalk of the leaf is rather long, angular, hairy, eglandular, with sharp hooked prickles pointing backwards, and running midway up the main rib of the leaflets. These are all stalked, dark green and very sparingly hispid above, a shade paler beneath and hairy on the veins and nervures, the hairiness very short and inconspicuous. The lower leaflets are comparatively large, ovate; the terminal one cordate or roundish and pointed, the length not much exceeding the broadest diameter; the margin coarsely crenate.—The old stem is angular, striate, rough with old setæ. Flowering branch downy, with hooked prickles, and ternate obovate irregularly serrated leaves. Panicle narrow, with numerous pale pink flowers, on erect stalks having a considerable number of setigerous glands. Sepals reflexed, often prickly at the base, pointed with a small mucro. Bears a large quantity of fruit.

177. R. RADULA. A large Bramble with purplish stout shoots that are often branched. Barren stem obsoletely angular, sulcate, slightly hairy, very rough with unequal prickles, sharp setæ and glandular setæ; prickles numerous, either straight or curved and declined, with a dilated base and a sharp point: Leaves quinate, large, on a purplish hairy and setose stalk armed with curved prickles, and with very narrow stipules: Leaflets rather finely serrated with gangrened mucronate tips, green and naked above, hoary beneath and hairy, the midribs prickly as well as the partial stalks: Lower leaflets large, reflexed, from a stalk common to them and the intermediate pair, which are ovate and narrowed at the base, but the terminal leaflet is cordato-ovate, obliquely cuspidate. The young leaves are very downy on the inferior surface.—Fertile stems rough and prickly, sulcate, almost round: Flowering branches elongated, angular, striate, downy, armed with prickles which lengthen on the upper parts: Leaves 3-nate, broadly ovate, the lower pair lobed: Panicle leafy, the flower-stalks patent or erecto-patent, covered with a spreading hirsuties, setæ and stalked glands: Bracteæ entire, bi- or trifid. Calyx greyish-green, with ovato-lanceolate segments which have a longish point, and become strongly reflexed. Flowers rather large, pink.

178. R. KOEHLERI. Stem angular or obsoletely angular, brown, striate, rough with hairs, setæ and glands, and armed with numerous straight prickles which are not much dilated at the base: stipules fringed with stalked glands: Leaf-stalk purple, hairy, setigerous, furnished with curved deflected prickles which frequently run up the midrib of the leaflets: leaflets 5- or 3-nate when the lower are lobed underneath, the terminal leaflet cordato-ovate, pointed, naked above, the nervures of the under surface clothed with very short fine hairs. —F. stem roundish, rough but not hairy, with leaves which are more thickly covered with silky hairs than those of the barren stem. Panicle downy with numerous glandular setæ. Calyx reflexed, glandular. Flowers pale pink. Bears a large crop of fruit. Grows in deans, and edges of natural woods.

179. R. CÆSIUS, "caule procumbente tereti subpiloso pruinoso, aculeis variis inæqualibus, foliis ternatis vel pinnato-quinatis foliolis lateralibus sessilibus extrorsum sæpe lobatis, floribus paniculato-corymbosis, fructibus cæsiis." W. and E. 102. tab. xlvi. A. et B.

In hedge-bottoms, on our river-sides in brakes, and on our sea-banks, where often it creeps down to meet the kiss of the spring-tide wave.—This can scarcely be mistaken for any other. The stems are long, slender, round and trailing, of a dull colour covered more or less with a glaucous bloom, and armed with numerous small unequal decurved prickles, but without any hairs or glands. The leaves are light green, ternate, with lanceolate stipules sparingly glandulous on the margin: leaflets subequal, the lower generally lobed, the terminal broadly ovate rhomboidal, coarsely and unequally crenate, frequently incised, green on both sides and hairy beneath on the nervures. The flowering branchlets are sprinkled with stalked glands and straight prickles. The broad segments of the calyx have a long point; and with us the flowers are always white.

The non-botanical world confound the preceding Brambles under one common name—the Brummel-berry-bush*; and some of the botanical world think that, in this instance, the other world is in the right†. The species admitted into our catalogue appear to us to be sufficiently distinct. Four or five of them may be found in almost every hedge or dean; but the setigerous sorts prefer the edges of natural woods, deserted quarries, and the bottom of old stone dikes. It is easier, however, to detect their peculiar character when growing, than to assign to specimens in the herbarium the name which the learned have given them; and error, we willingly acknowledge, is here a venial sin. Humble-bees do not discriminate between them, for they visit the flowers of every species indiscriminately; but schoolboys know that the berries of some kinds are larger and more luscious than those of others. These berries we were wont to call, in our school-days, Black-bow-ours. In Berwickshire they are more commonly called Brummels or Brummel-berries or Brummel-kites, —names which imply, I suppose, a suspicion that the fruit is liable to give those who indulge in them the gripes. They are gathered in some places to be made into jam; and sometimes to be baked in dumplings, and they are very good for either purpose. See Hone's Every Day Book, ii. p. 1116‡.—When cows are hide-bound, a decoction of the leaves and stalks cures the affection. The dried shoots, being split, are used in the making of bee-hives, for the purpose of binding

* Thomas Aird says that, in Roxburghshire, the Bramble is called Ladies'-Garters!

† Koch, Fl. Germ. 210: Hooker and Arnott, Brit. Fl. 120.

‡ In 1364 the Vicar of Norham receives tithe of Thistles and of "Bramble berries of the larger size." Raine's N. Durham, p. 278.—A very singular proof of the early use of these fruits has been lately published. A mass of seeds was taken from the stomach of a body of an early Briton disinterred from a tumulus in Dorsetshire. The seeds were sown, vegetated, and produced a Rasp! Gard. Chronicle, Sept. 25, 1852. Notes and Queries, vi. pp. 328 and 471.

together the straw; and they are very suitable from their length, flexibility, and toughness.

These critical Rubi are rare in our elevated muir districts: they scarcely occur in the Lammermuirs, however plentiful on the outskirts; and the Rasp only ascends into the ravines and wooded deans. They seem also to be sparingly distributed in the How-of-the-Merse. Otherwise they are common enough, and ornamental in hedges, where they are the successors of the Roses, and wherein they aid the thorn in its office. So far they are useful,—no further. To argue, as Benjamin Stillingfleet does, in the following passage, may seem good in the eyes of an amiable coterie, but it is to put natural theology to the blush. "Besides," says the good philanthropist, "it is a rare thing to see fences without brambles; they seem stationed there by Providence, to shew for what purpose they were intended. They bear fruit that is pleasing enough to draw the country people and children, who are not used to delicacies, to eat them: and, as if that were not sufficient to raise our attention, they are continually catching those who approach too near by their clothes, goading them in the flesh, and even laying snares for their feet if neglected, in short, doing every thing to shew their end, all but saying, 'Do you not see we were made to fence your ground?' Surely all these circumstances should be sufficient to rouse us, and make us consider whether they might not be turned to this use. Yet hitherto they have been neglected; and only looked upon as a curse upon the ground, as they are called in Scripture: and so they are to those who do not love to labour for themselves, according to the original curse pronounced upon man: 'In the sweat of thy face shalt thou eat bread.'" Select Works, ii. p. 616.

180. R. SAXATILIS. B. Lees'-cleugh, a wooded ravine near Langton-lees' farm-house, plentiful, Rev. Thos. Brown. In Blackburnrigg dean intermingled with our R. plicatus; and sparingly in Bushiel dean, J. Hardy.—N. On Cheviot in Dunsdale, and above Langley-ford. Aug.

181. R. CHAMÆMORUS. Grows in profusion on the higher parts of Cheviot and of Hedge-hope. It flowers in June. The fruit ripens in autumn and is called Noops, Knot or Knout-berry.

182. FRAGARIA VESCA. Wild Strawberry. On the sunny side of deans, in open spots in plantations, and at hedge bottoms in many places.—May-June.

183. COMARUM PALUSTRE. Sphagnous bogs and marshy places in moors, frequent. June–July.

184. POTENTILLA ANSERINA. Silver-weed: Goose-grass: Fair-days, probably because it expands its bright flowers only in clear weather and in sunshine.—Common on road-sides and in poor pastures, flowering throughout the summer. The flower has a sweet smell, while that of P. reptans, otherwise so alike, is scentless. The leaves are beautiful at all seasons, but, as I think, most so in the later autumn,

when they have assumed the fine yellow tint which precedes their decay.

185. P. ARGENTEA. Dry gravelly places, rare. B. Road-sides west of Stitchell, not common, Dr. R. D. Thomson. Stitchell Lynn, Dr. F. Douglas.

186. P. VERNA. Rare. N. Plentiful on Spindlestone hills. May.

187. P. REPTANS. Road-sides and borders of fields in stony places, not uncommon. June–Aug.

188. P. FRAGARIASTRUM. Woods, deans, and hedge-banks, everywhere. It appears partial to braes covered with the Sloe. April, May.

189. TORMENTILLA OFFICINALIS = Potentilla tormentilla. Tormentil.—Muirs and barren pastures, very common. June–July.—The Cheviot herds call the Tormentil the Ewe-Daisy. In the Lammermuirs the root is called the Shepherd's-Knot, and is used, when boiled in milk, for the cure of diarrhœa. The plant itself, under the name Flesh-and-Blood, is a popular astringent medicine for children. For this purpose it is collected and dried. Blood-root is another name for the plant; and both names are obviously derived from the disease it is administered to cure, viz. the dysentery. It is also given to sheep to cure them of the braxy, and of a singular disease called the "Loupin-ill," from one of its most obvious symptoms; for when a person goes up to a sheep affected with it, the animal leaps into the air as if suddenly surprised, and falls down exhausted and apparently dead.

The TORMENTILLA REPTANS has been stated to grow in Berwickshire, but I have seen no specimens; and as the species is a critical one, I omit it from the register until future observations confirm its claim.

190. ALCHEMILLA VULGARIS. Lady's-Mantle. Common at road-sides; wastes, especially on the waste ground at the sides of our burns; and in pastures, flowering in June.—The Rev. Charles Abbot thinks this "the most elegant plant" of all our natives. Fl. Bedf. 36. This elegance, combined with the shape of the leaf, undoubtedly suggested the English name of the herb, and its dedication to "our Lady." From the shape of the leaves, the plant has been also called Duck-foot, and, in the north, Bear's-foot. See Raii Syn. 158.

191. A. ARVENSIS. In light gravelly fields, and on dikes capped with earth, common. May.—Sometimes called by the common people, Bowel-hive-grass, and administered, in infusion or decoction, to children labouring under the "hives," which is a species of chronic diarrhœa. G. Henderson. It is probably a useful medicine, having the same properties as A. vulgaris, which are somewhat tonic and astringent. Lindley's Introd. Nat. Syst. p. 81.

192. SANGUISORBA OFFICINALIS. Don's Gard. Dict. ii. 594. Rare. B. In the bed of the Tweed below Birgham, sparingly.—R.

Fields at Lurdenlaw near Kelso, Dr. F. Douglas. About the base of the Eildon hills. Sept.

193. POTERIUM SANGUISORBA. Burnet.—B. Mr. James Mitchell, during an excursion of the Club, 19th May 1833, picked a single specimen on the bank above Coldingham lough. This was the first intimation of the plant being a native of Berwickshire. Several years afterwards it was found abundantly by Professor Balfour near St. Abb's Head, between the promontory and the Pease dean. Bot. Gazette, i. p. 78. And, at a later date, Mr. Hardy discovered it on the sea-banks at Burnmouth, where the Club has seen it growing in profusion over a large extent of ground.—N. On Spindlestone hills. June.

194. AGRIMONIA EUPATORIA. Agrimony.—Borders of fields and on dry banks, common. June, July.—The dried herb is used as a sort of medicinal astringent tea. The flowers have a delicious smell, something between that of the orange and lemon.

195. ROSA SPINOSISSIMA. With. Bot. Arrang. ii. 465.—Var. α. *inermis*; Flower-stalks and fruit smooth:—β. *Hystrix*; Flower-stalks and fruit bristly:—γ. *ciphiana*; Flowers red.—The Caterp.—Sandy sea-banks, deans, and hedges. The only Rose found wild in Holy Island. The two first varieties are common, and from them are derived the numerous varieties of the Scotch Rose cultivated in gardens. The variety with rose-coloured or pink flowers, the flower-stalks hispid, and the leaflets obovate-retuse, grows among whins in Bushiel dean, J. Hardy; and in the Snail's-cleugh, a ravine which divides Berwickshire from East-Lothian above Craneshaws. It is the Rosa ciphiana of Sir Robert Sibbald; and its beauty seduced him to sing its praise in a Sapphic ode more distinguished for length than for poetry. See Scot. Illustr. p. ii. lib. i. p. 61. June, July.

196. R. GRACILIS. B. In a hedge at Lamberton Shiels. June.

197. R. SABINI. B. On a bank close by the railway at Coveyheugh near Reston Station, intermixed with R. spinosissima. June. —This and the preceding constitute the R. Sabini of Mr. Borrer. See Hooker's Brit. Flora (1830), p. 229.—Resembles R. spinosissima in habit and mode of growth, but it is a larger plant with larger leaves.

198. R. VILLOSA. In deans and by water-courses, not uncommon. A variety with smaller flowers than usual, and of a white colour, grows on the road-side between Berrington and Barmoor. In habit this variety closely resembles R. cæsia.

199. R. TOMENTOSA. The Wild Rose, and, in some parts of Berwickshire, the Wild Sweet-Briar, for the perfume of the leaves emulates faintly that of its cultivated relative. Common in hedges and deans,

> "Where the Rose in all her pride,
> Paints the hollow dingle side."

It has either rose-coloured or white flowers; and the variety named

R. scabriuscula by Winch has, "when half inwrapt, and half to view reveal'd," peculiarly attractive buds and flowers richly tinted with red and white. This is common in our district on sunward banks.

10. *R. rubiginosa.* The Eglantine or Sweet-Briar, or simply the Brere.—

> "And I, that all these plesaunt sightis se,
> Thought suddenly I felt so swete an air
> Of the Eglenterè, that certainly
> There is no hert (I deme) in such dispair,
> Ne yet with thoughtis froward and contraire
> So overlaid, but it should sone have bote
> If it had onis felt this savour sote."—CHAUCER.

Often planted in hedges; and is occasionally found on banks in deans. It may be a native; but its original is obscured by the veils which progress in culture throws over such plants as have come under man's protection and favour.

200. R. BORRERI = R. dumetorum, Eng. Bot. tab. 2579. = R. inodora, Brit. Fl. 130.—N. In the wood at the base of Yevering Bell; and on the east declivity of Kyloe crags.

201. R. CÆSIA, Fl. Berw. ii. 281.—B. On the bank above the road leading to Whiteadder bridge. A single bush, nor has the species been noticed in any other locality in the district. July.

202. R. SARMENTACEA. Hedges and deans, frequent. July.

203. R. DUMETORUM. Deans and brakes. B. Sea-banks below Lamberton Shiels. June–July.

204. R. FORSTERI. Rare. D. Ancroft dean. July.

205. R. CANINA. Dog-Rose: Briar-Rose: the Dog-hep.—Hedges and thickets of natural wood, common. June, July.—It has been ascertained that this species will survive at least 800 years (Humboldt's Views of Nature, p. 275),—an unexpected comment on the poet's fancy that

> "The Rose has but a summer's reign,
> The Daisy never dies!"

The young and juicy shoots of R. canina, and of the allied species, are peeled by truant school-boys and chewed,—rather as a relief from ennui, than to gratify the taste, or appease the appetite. The stems furnish them with bows. These are also occasionally used to make hoops for casks. Our children "make chaines and other pretty gewgawes of the fruit":—

> "She sate her down, unseen, to thread
> The scarlet berry's mimic braid."—SIR W. SCOTT.

And often they eat them, first carefully picking and puffing out the hair-enveloped seeds, for well they know that if the hairs get into the neck a youkiness (itch) is the disagreeable consequence*. Is the

* "That all-devouring gourmand, the schoolboy, who crams every cru-

fruit not worth a place in our desserts? Linnæus says, "Baccæ exacinatæ cum vino juscula constituunt nostratibus receptissima." Fl. Suec. p. 171.

Our wild Roses obey much the same laws in their distribution as the Brambles. R. tomentosa ascends the Cheviots higher than any other. The species intermingled occupy the district from the deans in our elevated boundary to the sea-shore; but it is in lowland open deans, and in unclipt and untended hedges, of which we fortunately have several that line by-roads, or roads which traffic has forsaken, that they shoot up in freedom their cany boughs, and flush the solstice with beauty. Nothing can be more exhilarating than a hedge bourgeoned with their graceful arches, glowing with a crowd of flowers in bud and in blow*; and looking thereupon I have learned to enter with more entire sympathy into others' bereavement, as well as to Milton's complaint, that there was blank to them, and to him,

"Or light of vernal bloom, or summer's rose."

The botanical rambler in our deans will frequently meet with groups of thorn, hazel and sloe, enwreathed with honeysuckle and arched with roses, which may have been the very types whence the poets have drawn the following true pictures:

"The Hawthorn here,
With moss and lichen grey, dies of old age:
Up to the topmost branches climbs the Rose,
And mingles with the fading blooms of May,
While round the Briar the Honeysuckle-wreaths
Entwine, and with their sweet perfume embalm
The dying rose."—JAMES GRAHAME.

. . . . . "and there Wild Briers enwreath'd
With honey-suckles wild, brimful of life,
Now trail along, and clamber up and fill
The air with odours, by short sleeping bee
Already visited."—J. WILSON.

206. MESPILUS OXYACANTHA = Cratægus oxyacantha. Don's Gard. Dict. ii. 600. The Thorn: Hawthorn: Haw-tree; and the fruit are called Haws.—The name is derived from the Anglo-Saxon Hâia, which signifies a hedge,—and furnishes a proof as to the very early period in which the shrub was applied to a purpose for which long experience has shown no other is so well adapted, and for which it is now almost exclusively employed in our district. In 1561, to

dity into his maw, from the sour mouth-screwing crab up (though down in literal position) to the Swedish turnip, sweetened by the frost, riots in the luxury of the hip, caring not how much the downy seeds may canker and chap the wicks of his mouth, and render his nails an annoyance in scratching his neck."—THOMAS AIRD.

* "Once upon a time, when I was fishing on the Tweed, between Old Melrose and Dryburgh, I saw, after a thunder-storm, a slip of dewy sunlight streaming down through a wild-rose bush, on the bank, all a-blush with roses. I thought it the sweetest sight I had ever seen in nature."—THOS. AIRD. Memoir of D. M. Moir, p. cxxviii.—The Wild-Rose was Delta's favourite flower.

defend the villages of N. Durham against the raids of the Scotch moss-troopers, hedges were ordered to be planted around the "little closes or crofts" lying hardbye the village; and the hedge was to be "a dooble set of quicksett and some ashes." Quicksett is the name still given to the young planted thorns; and any doubt as to the meaning is removed by the further order to each tenant "to sow haws and shaffs of ashe for seven yeares to come." Raine's N. Durham, p. xxxii.—The plantation of hedges for peaceful purposes succeeded, and has been commensurate with the progress of agriculture, so that there is no plant which contributes more to give a character to the existing landscape. And it is not easy to overrate the wholesome influence of the hawthorn, in early summer especially, on the population itself; for then it is radiating from every road, and lane, and footpath, a stream of incense and of beauty which nor young nor old can resist,—a balm than which that of Gilead is not more virtuous. Nothing which gives us a happy hour can be insignificant. There is a pleasure in seeing our nice boys and girls carrying home flowered branches of the Thorn, albeit this attempt to prolong the outdoor enjoyment is often a fruitless one. It is at all events a visible testimony to the ascendency and power of the shrub over them and their happiness.

Further "in this northern district," the Hawthorn is "one of the greatest accessories to the beauty and scenery of our denes and deep ravines, and few that are at all wooded but owe a great portion of their interest to the presence of this tree; as a proof of its effect in such localities, we might instance the ravines in the neighbourhood of the Pease-bridge, on the great northern road between Berwick and Edinburgh, where large and ancient Thorns are seen mixed with a few detached and knarled oaks, the vacant spaces enriched with the golden blossoms of the whin." Selby, Brit. For. Trees, p. 70.—There are also many fine Thorns cherished in the policies or grounds surrounding the residences of our gentry; and many in the haughs which lie along the sides of our waters. These afford a favourite concealment in which the Thrush seeks to build her nest:

> "Within yon milk-white hawthorn bush,
> Amang her nestlings sits the thrush;
> Her faithfu' mate will share her toil,
> Or wi' his song her cares beguile."

Our thickest and wildest deans too contain abundance of Thorn; and it is found occasionally, in small groups or solitary, on our moors, but stunted and hung in a livery of grey lichens,—a kind of garniture which also gives character to the miserable hedges of those districts, where the soil and climate prove only favourable to the parasites. On the sides of our highest hills also an occasional Thorn catches the eye and serves as a sort of land-mark to the shepherd. They grow generally on a rough stony spot, or on a cairn; and are cankered stunted productions with small leaves and few or no flowers; or, if the site is exposed to the east winds or the northern gales, the shrub lies squat to the ground with tortuous branches, intertwisted closely,

so as to form almost a seat, and covered partially with the small-leaved purplish Jungermannia.

There are some Thorns in our district which call for specific mention. (1.) B. The Polwart Thorn—familiar to the reader of the Ballad poetry of Scotland:

> "At Polwart on the green
> If you 'll meet me the morn,
> Where lasses do conveen
> To dance about the Thorn."—A. Ramsay*.

The custom was for new-married couples, with their friends, to dance around this Thorn on the eve of their marriage. It originated, as we shall have future occasion to tell, in a rude age, and at a remote but uncertain era; and was only relinquished towards the end of the past century. The last couple who performed the time-honoured rite are yet in life, far advanced in years. There were originally two thorn-trees which stood near the middle of the village, at about six yards' distance from each other. Neither of these now exist. The last of them was blown down several years ago, and its trunk is preserved in the cellar of Marchmont-House. Chambers' Picture of Scotland, p. 13. From its root a successor has arisen; and another bush near it has been apparently a seedling. Neither of the descendants have any beauty, for they have not been kindly nursed nor cared for; but they are notwithstanding worthy of preservation, and, as the villagers take a pride in them, so let us hope that the proprietor, and descendant of an ancient house, will indulge them in their pride,

* The authorship of the Song is disputed. See "The Songs of Scotland," published by Wood and Co., Edin. 1849, iii. p. 119.—Miss Elizabeth Bell writes me: "An old song on the subject, perhaps now supposed Allan Ramsay's, was written by my Great-Great Grandfather, at that time a proprietor of the greater part of the neighbouring parish of Fogo, and the Grandfather of Thomson the Poet. Thomson in right of his mother, Beatrix Trotter, succeeded to Widehope, among the lower Cheviots near Yetholm, and there is known to have written his 'Winter' before he went to London. This property became my Father's, as the nephew and heir of the Poet, but unfortunately, owing to his having a large family and small stipend, he was obliged to sell it about 60 years ago."—The father of Miss Bell—James Bell, D.D.—was minister of the parish of Coldstream from 1778 to 1794, where he died 9th August in the 50th year of his age. He appears to have been a botanist, for, in his account of the parish, he remarks that,—"Plants in far greater variety are to be found in the lower parts of Clydesdale and Renfrewshire than in this parish and its neighbourhood. This part of the Merse and downwards along Tweed, is not a rich field for a botanical journey." Stat. Acc. Scotland, iv. p. 415.—The inference I drew from this passage has been confirmed by his daughter, who tells me that he was, from boyhood, very fond of the study, and at the time of his death was preparing a work on the subject. He was an accomplished scholar, devoted to literature, science, and the fine arts; and he was a Fellow of the Royal Society of Edinburgh. He published a volume of "Sermons preached before the University of Glasgow," Lond. 1790; and had made great progress in writing a Life of Thomson, which his early death arrested. Unfortunately the materials he possessed have been lost.

and maintain in healthy vigour those monuments of the gallant chivalry of the founder.—(2.) R. A not less famous Thorn—"the Eeldon Tree,"—grew at Earlstoun or Erceldoune, associated with one of Thomas the Rhymer's prophecies:

> "This Thorn-tree, as lang as it stands,
> Earlstoun sall possess a' her lands."

This tree was blown down by a high wind in the spring of 1821. Chambers' Popular Rhymes, p. 8: Trans. Berw. N. Club, i. 146.—

> "Methinks the visioned bard I see
> Beneath the mystic Eildon Tree,
> Piercing the mazy depths of Time,
> And weaving thence prophetic rhyme;
> Beings around him that had birth
> Neither in Heaven, nor yet on earth;
> And at his feet the broken law
> Of Nature, through whose chinks he saw."—Moir.

D. **Ladythorne.** The name of this onstead was conferred so recently as 1712, but the Thorns from which the name was derived appear to have been of long previous existence. They occupied about a quarter of an acre in the middle of a pasture field, but the clump was reduced to a few old and withered shrubs when, in 1827, the late Mr. Wilkie replanted the plot and surrounded it with a fence. It was the custom for passers-by to suspend upon the branches of the original thorns fragments of cloth and rags of any kind. Raine's N. Durham, p. 232. The custom is discontinued, but many now alive remember it*. On inquiring at one of these as to the object of the votive offering, the answer was—"Weel—I don't know—something I suppose about the witches." More likely it was suspended to propitiate or please the "good people." The place is one seemingly more fit for their moonlight revels than for the sorceries of the sisters of Hecate.

Boys in autumn go out in groups to gather the ripened Haws, and they look out eagerly for those with double stones, which they dignify with the name of **Bull-Haws**. Having sucked the pulp from the stone, they amuse themselves by blowing the latter at each other through their pop-guns, made from the hollow stalks of the hemlock. Haws, they believe, are apt to fill the teeth with lies; for the number

* Instances proving a prevalence of a similar custom over Britain, and the Old World in general, may be seen in Brand's Popular Antiquities, ii. p. 380. I may add one which shows that it extended to the New World also. In the "Journal of an Expedition to the Mauvaises Terres and the Upper Missouri in 1850," by Thaddeus A. Culbertson, it is stated, on the authority of Mr. Mackenzie, who had had "great opportunity for learning the customs and habits of the Indians," that "while they have no priests nor regular religious system, they all worship something—they offer sacrifices of cloth and other articles to the Great Spirit, and this is done by simply casting them into the prairies, with some form of prayer I suppose. Scarlet cloth is generally preferred for this, also calico with red in it, and sheet-iron kettles that have not been used." Report of the Smithsonian Institution for 1850, p. 89.

of "lees" that a boy has told that day is reckoned by the number of black specks on the teeth, and the absence of specks vindicates his innocence.—An abundant crop of haws betokens a severe winter:

"Mony hawes
Mony snaws*."

There is something very pleasing in this belief, which must have been born when man's affections are most kindly stirred, during a Christmas storm; and the trusty faith that gave it birth keeps it yet alive, despite many observations to the contrary. "It is an observation amongst countrey people, that years of store of Hawes and Hips do commonly portend cold winters; and they ascribe it to God's providence, that, as the Scripture saith, reacheth even to the falling of a sparrow; and much more is like to reach to the preservation of birds in such season."—Bacon. 'T were cruel to eradicate such a belief.

11. *Pyrus malus*. Don's Gard. Dict. ii. 623.—Crab-apple: Scrogs or Scrog-apple.—Frequent in old hedges and very ornamental. May–June.—The parent of all the numerous varieties of Apples at present cultivated.

207. Pyrus aucuparia. Mountain-Ash: Rown or Quicken-tree.—May–June.—The Roan-tree grows wild at the sides of all our clear and brattling burns in hilly districts, where, however, it does not attain the size it grows to in our sheltered deans. Here "it frequently becomes a tree of the second or third magnitude, with a form generally devoid of that stiffness and round-topped outline it usually assumes under cultivation, or as seen in dressed and garden grounds." Selby, Brit. For. Trees, p. 77†. We have observed that it shows a preference to the rocky sides of the little cascades or linns of our burns, where it "hangs in calmness o'er the flood below," with an airy gracefulness peculiar to itself; and Wordsworth appears to have made the same observation:—

"The mountain Ash
No eye can overlook, when mid a grove
Of yet unfaded trees she lifts her head
Decked with autumnal berries, that outshine
Spring's richest blossoms; and ye may have marked
By a brook side or solitary tarn,
How she her station doth adorn;—the pool
Glows at her feet, and all the gloomy rocks
Are brightened round her‡."

* Chalmers' Popular Rhymes, p. 37.

† "On the high and rocky bank of the Blackadder, close to Blackadder house, there formerly existed a very fine Rowan-tree, which was blown down by a high wind about 11 or 12 years ago. It measured about 8 feet in circumference, and was of a proportionate height. It was supposed, says my informant, to have been the largest Rowan-tree in Scotland." G. Henderson. May 2nd, 1836.

‡ Linnæus' description of this tree is very characteristic of his happy style and observation: "Arbor brevioris ævi, minus topiaria, vere et autumno læta, media æstate tristis."—Flor. Suec. p. 168.

The sweet-smelling corymb of flowers is resorted to, in its season, by numerous insects; and the Thrush-tribe greedily devour the berries. I have never seen these used in Berwickshire as a bait to snare the birds, as Sir Robert Sibbald tells us was once the custom in Scotland: "Ex setis caudæ (equorum) finguntur laquei, quibus appensis baccis Sorbi aucupariæ autumno turdelæ, meruli et rubeculæ capiuntur." Scot. Illust. ii. lib. 3. p. 6. In our moor districts the berries are called Reddens; and children are frightened from eating them by being told that they will draw the entrails together,—and the astringency of the fruit comes in aid of the mother's caution. Housewives there pickle them for garnishing dishes in winter; and, on an autumn holiday, children string them into laces of beads.

14. **P. aria.** White Beam-tree.—In plantations. July.

208. Epilobium angustifolium. Stephens in Ann. and Mag. N. Hist. viii. 170; and Leighton in Ibid. p. 403. French-Willow. —B. In the ravine above Ross; in Dulaw-dean; and on the sea-banks between it and Redheugh. On the banks of the Whiteadder from Claribad to above Hutton-mill. Banks of the Tweed above Coldstream, R. Embleton.—N. In the Cheviots, on the banks of the Common Burn; above Langley-ford; and in Dunsdale.—Wherever it grows, the French-Willow is abundant; and very glorious to see when in flower. This, when in bud, is strongly deflexed and appressed, patent when fully blown, and erecto-patent when in fruit. The plant has been introduced into the garden, where its permanence is secured as much by its rooty habit as by its showiness. July.

Between Hutton-ha' mill and Hutton mill the Whiteadder makes a fine semicircular sweep, defined, on the southern side, by a high, steep, scarry, and partially wooded bank, which overlooks a pretty half-reclaimed haugh on the north side. On the bank the French-Willow grows in profusion, with the Wood-Vetch; and the young botanist may gather the following species on the haugh:—

Malva moschata.
Symphytum officinale.
Sium angustifolium.
Galium Witheringii.
Trifolium fragiferum.
Sparganium ramosum.
—— simplex.
Myosotis cæspitosa.
—— palustris.
Scirpus lacustris.
Potamogeton pusillum.
Schœnus compressus.
Anacharis alsinastrum.

209. E. hirsutum. Runlets by way-sides, and the channels of small burns in the lowlands are, in August, choked in many places by the luxuriant growth of this beautiful species. It also fringes the sides of many of our ponds, and of our waters, in places where the soil is wet and muddy.

210. E. parviflorum. Watery places, frequent. July.

211. E. montanum. Deans, woods and hedge-bottoms; and on old walls, especially on those over which water trickles.—The variety *β. verticillatum*, distinguished by having three leaves in a sort of whorl, occurs occasionally in our district. July–Sept.

212. E. PALUSTRE. See Bot. Gazette, i. p. 12; Hardy in Ibid. p. 133, and in Ann. and Mag. N. Hist. Ser. 2. iii. p. 424.—Frequent in bogs. Aug., Sept.—A small pubescent variety grows commonly on the Lammermuirs about Godscroft *,—an old and interesting hamlet on Monnienut-burn above Abbey St. Bathans. It is the birth-place of David Hume, author of the "History of the House and Race of Douglas and Angus." He was born there prior to 1560. See the prefatory notice to his "de Familia Humiæ Wedderburnensi Liber." Edin. 1839: Stat. Acc. Berwicks. p. 108: M'Crie's Life of A. Melville, ii. p. 323–5; and p. 329.

213. E. TETRAGONUM. Marshy places, not uncommon.

214. E. VIRGATUM. Fries Sum. Veg. Scand. i. 177: Bab. Man. p. 114; Ann. and Mag. N. Hist. ix. 340.—B. Oozy bogs, or "jogly beds," on the side of Monnienut-burn at Godscroft. July.

215. E. ALSINIFOLIUM. "Ad rivulos in lateribus montis Cheviotæ in Northumbria Angliæ observavi," Ray, Hist. Plant. i. 862. It chokes the sykes† that lead to the Colledge ‡ and burns flowing down the Henhole and Dunsdale ravines of the great Cheviot.—Ray referred this plant to E. alpinum. He was followed by Hudson (Fl. Ang. edit. 1. p. 142); and by Robson in his Br. Flor. p. 94. The authors of the Botanist's Guide through Northumberland and Durham found reason to distinguish it, and they suggested the trivial name cæspitosum. "In winter it is not deciduous, but forms wide-spreading matted tufts of small leaves, among which fibrous roots shoot out, as in proliferous plants. The flower-stems are partially decumbent, cylindrical, at first simple, afterwards much branched, and furnished with numerous elliptical, slightly toothed, soft leaves; the flowers are few, and the style undivided." Bot. Guide North. ii. p. v.—Mr. Dawson Turner was of opinion that the plant was a "starved variety of E. montanum, arising from the elevated situation." Turn. and Dillw. Guide, ii. p. 471.—Wahlenberg considers it merely a variety of E. alpinum (Fl. Lapp. p. 95), deriving, we presume, its luxuriant character from its descent to lower grounds;

* Sometimes pronounced Gowkscroft. It may have been "the Gudeman's croft" originally, viz. that portion of land set aside as the property of the archfiend. See Sir W. Scott's Demonology, p. 89.

† The synonym of *sich* or *sitch*, an English word now obsolete, and which was a translation of the barbarous Latin words Sichetum or Sikettus. See Notes and Queries, vi. 364.—I find that in our district a runlet or small burn is also called by some a *letch*. My friend Mr. Home has given me an illustration of its use. In an agreement about Grangeburn Mill, 10 Nov. 1682, the lessees thereof "are to have their bounders from the south end of the Quarrye above the said Milne where a greate gray ground stone is lyeing there beside it on the north side of the Mill damm and from thence all along by the brink of the bank till they come to the Milne-house and from thence along by an old dyke on the north side of the said Milne evenly doun Southward to the *Letch below the said Milne*."

‡ Usually spelt College, but wrongly, says Mr. Carr in Trans. Tynes. Nat. Club. i. 347.

and the late excellent Professor Graham* says: "Perfectly distinct as the extremes of this and E. alpinum are, I picked specimens in several parts of our route which I find it difficult to distinguish from either." Edinb. New Phil. Journ. x. p. 374.—Professor Hooker expresses a like opinion, Brit. Flora, edit. 4, p. 162; but Professor Arnott appears to consider them as distinct species. Brit. Fl. p. 136.

216. E. ALPINUM. "Near springs and rivulets on Cheviot hills," Gough's Camden, iii. p. 525.—It is evident that E. alsinifolium is here intended; but Dr. F. Douglas picked specimens of what he believed to be the true E. alpinum in Dunsdale near the very source of the Colledge. Subsequently, on a Club excursion, I gathered several specimens in this locality, between which and specimens of the Scottish E. alpinum I could detect no difference.

217. CIRCÆA LUTETIANA. Shaded deans and woods, frequent. B. On the east it is abundant in the Pease-dene; and on the west in Redpath dene, &c. July–Aug.

218. HIPPURIS VULGARIS. Stoke's Bot. Comment. i. 9.—Marshes and sides of ponds, not common. B. In the pond below Belville farm in the parish of Eccles, Rev. A. Baird. Lithtillum loch, and Ferneyrig marsh, Dr. R. D. Thomson. In mosses on Coldingham moor, J. Hardy. On the muirs between Greenlaw and Gordon.—D. Learmouth bog, Dr. F. Douglas.—Summer.

219. MYRIOPHYLLUM SPICATUM. In ponds and slow running water, common. Aug.–Sept.

220. LYTHRUM SALICARIA. In rough bogs, sides of marshes and of ditches, not common, but distributed over the district. Aug. A very beautiful plant, yet undistinguished by a name.

221. PEPLIS PORTULA. Watery places, uncommon. B. In a ditch on the Tower-farm near Cockburnspath, Rev. A. Baird. Near the head of Lemington dene; Pease-dean, A. A. Carr. In a watercourse near Quixwood, J. Hardy. Ditch between Muirmontrig and Stoneshiel, Dr. Hood. Langstruther bog, J. Hardy. Greenlaw muir.

222. MONTIA FONTANA. Watery places; spring-heads, and by the sides of runlets on a gravelly soil, common. It loves moors, and ascends the Cheviot nearly to the summit, where its greatly superior size and luxuriance prove how well the alpine height suits its character. See Fl. Berw. i. 32.

223. RHODIOLA ROSEA = Sedum Rhodiola. Wahl. Fl. Lapp. 275.—On the coast of Berwickshire in many places, but especially abundant and luxuriant in Dulaw dean. N. Head of Henhole, Cheviot, Dr. F. Douglas. June–July.—Often to be met with in gardens, where it is sometimes called Heal-all, for the leaves are applied to recent cuts of a slight nature.

* For a short biographical notice of this frank, kind-hearted, honest and genial professor see Ann. and Mag. N. Hist. xvii. p. 69; xix. p. 192.

224. SEDUM TELEPHIUM. Orpyne: Orpin: Orpits. Very rare. B. On the borders of a field one mile N. of Eyemouth, sparingly, Rev. A. Baird. Near Coldingham on road-sides.—R. In the vale of the Bowmont, Rev. A. Baird.—Cultivated in rustic gardens, for Orpy-leaves are a popular vulnerary. For some curious customs associated with the plant see Brand's Pop. Antiquities, i. p. 329.

225. S. VILLOSUM. B. Grows in wet and boggy ground, scattered over the entire range of the Lammermoors, yet so dispersed as to make the botanist count it among those flowers he prizes for rarity as well as for beauty.—N. It is common enough amongst the Cheviots; and it grows on the basaltic heights between Belford and Bambrough. July.

226. S. ANGLICUM. Holy-Island, on the Heugh and about the Castle. July.

227. S. ACRE. Don Gard. Dict. iii. 119. Stone-crop. On dikes capt with earth, and on rocks in deans, common. June. Often removed to the garden to ornament walls and rock-work; and cottagers plant it on their window-sills, and on the roof of the porch, where it grows untended, pleasant and evergreen in the leaf, and cheerful when in flower. In winter the herbage is purplish-brown. On chewing a bit of it, no particular taste is at first perceptible; but, in a few minutes, an acrid and peculiarly disagreeable sensation in the throat follows, and which lasts a considerable time. This acridity is much weakened, and often entirely lost, when the Stonecrop is in flower.

12. *Sempervivum tectorum.* House-Leek: Fooz or Fuets. Planted on the roofs of cottages, and especially on that of the smithy, where

16. Sedum reflexum.—Has been observed in one or two places on earth-capt dikes, but in our district too obviously the mere outcast of the garden. July.

17. S. album. "Near the village of Ilderton, on an old wall, Sedum album was found in great profusion and beauty. Whether truly indigenous, it is difficult to say, but I do not think we are justified in at once asserting, as is often done, that the plant must have been planted, as it is so near a village." R. Embleton in Trans. Berw. N. Club, ii. p. 356.—I know Ilderton and its garden well; and sixty years ago this was indeed a garden remarkable in many respects, and not least so for the variety and number of good old flowers grown in it,—old familiar flowers now become unfamiliar to this generation:—Silver and Golden Rods, Bachelor's-Buttons, yellow and white, Blue-Bottles, Peonies of monstrous size and beauty, Southernwood, the blue Iris, Narcissuses, such as I have never since seen, Daffodils, Solomon's-Seal, Star-of-Bethlehem, Orpin, Saxifrages, and every herb that village doctress could require in her need. "Of this kind are elder flowers, which are therefore proper for the stone; dwarf-pine, which is good for the jaundice; piony, which is proper for stoppages in the head; fumitory, which is good for the spleen, and many others."—Lord Bacon. All these were collected together, and cultivated in patterns, by an old gentleman who had emigrated from France; and from such a garden Sedum album might have escaped without difficulty.

it forms a round tuft ornamented, in July, with thick leafy stalks, branched at the top, "alongst the which branches groweth a great many of browne or reddish floures."—The leaves furnish a popular remedy for cuts and corns. The juice expressed from them, mixed with cream or milk, is a very soothing application in severe itching.

228. RIBES GROSSULARIA. Don Gard. Dict. iii. 179. Goose-berry: Groats. Found frequently in deans, woods, and hedges. April.

229. R. NIGRUM. Blackberry. In deans on the former sites of mills; but sometimes apparently wild, as in a dean leading from the Till about two miles below Etal. May.

230. R. RUBRUM. Don Gard. Dict. iii. 187. Red Currant. With the preceding.—In the heart of the Lammermuirs the Black Currant thrives and ripens its berries perfectly. The Gooseberry feels the climate a little ungenial; and the Red Currant can scarcely be made to produce desirable fruit. Ray considers the Red and Black Currants to be indigenous to England, and more particularly in some of its northern counties. Syn. p. 298. edit. 1696. In the Flora of Berwick, ii. p. 323, I have advocated the claim of the Gooseberry to be considered a native; and Dr. Bromfield has supported this claim, with more elaborate care and learning, in the Phytologist for 1848, p. 377. With Dr. Bromfield's view I in the main cordially concur. Mr. H. C. Watson says:—"The different kinds of Gooseberries and Currants cultivated in our gardens are probably derived from species indigenous to Britain, and are very apt to spring up in our woods and hedges from translated seeds." Geog. Dist. Brit. Plants, p. 41. Just so. Taken from the pristine woods, a portion of the race was reclaimed and made fructuous, while agriculture rooted out the remainder as useless cumbrances of the ground; but as the present ambiguous wildlings descend from what were originally natives, we have admitted them amongst our indigenous plants.

231. SAXIFRAGA STELLARIS. N. By the sides of burns and runlets, and in green bogs, on and about Cheviot, frequent; and a fine flower to reward the young botanist as he wanders amongst these hills. June–July.

232. S. HIRCULUS. Hooker Brit. Fl. edit. 4, 174. Trans. Berw. N. Club, i. 9.—B. In a wet moorish spot near Langton wood, plentiful, Rev. Thomas Brown, who had the good fortune to add this beautiful species to the Flora of Scotland. July.

233. S. HYPNOIDES. N. On Cheviot in Dunsdale and Henhole Hopes, very abundant, Miss Hunter and Miss E. Bell. July–Aug. Is used to form borders in flower plots.

234. S. GRANULATA. Gravelly banks in deans, and by rivers and burns, not uncommon; and it ascends to Dunsdale on Cheviot. June, July.

13. *S. umbrosa.* None-so-pretty: London-Pride. B. In the dean

at Edrington-House this favourite flower seems to have naturalized itself. June.

235. CHRYSOSPLENIUM OPPOSITIFOLIUM. Common. May.

236. C. ALTERNIFOLIUM. Of too frequent occurrence in our district to require its habitats to be specified. The two species frequently grow intermingled. Their favourite haunt is a black boggy soil on the margins of little rills, or around fountain heads, in wet shady woods. They grow in patches conspicuous for their yellow hue. Eng. Bot. i. 54.

237. HYDROCOTYLE VULGARIS. Bogs and marshy places on muirs and in deans, abundant. June–July.

238. SANICULA EUROPÆA. Woods and deans, frequent and abundant. June.

239. CICUTA VIROSA. Ponds, rare. B. Primside loch, Dr. R. D. Thomson.—D. Learmouth bogs, R. Embleton.—R. Yetholm loch, Rev. A. Baird.—July–Aug.—The smell and taste of the plant are something like those of Parsley, but weaker, and give no indication of its energy as a poison. The seeds are decidedly aromatic.

14. *Petroselinum sativum.* Don Gard. Dict. iii. 279. Parsley.—B. Naturalized on waste ground at Fireburn mill; and on the banks of the Tweed near Birgham, Miss E. Bell. I find it year after year on road-sides near Berwick; and it occurs often in new pastures, where it has been sown with grass seeds.

240. SIUM NODIFLORUM = Helosciadium nodiflorum. Ditches and runlets, frequent. Aug.

241. S. INUNDATUM = H. inundatum. In pools on the sides of our waters and burns either left after inundations or filled from well-heads, in our muirland districts, common. July.

242. S. ANGUSTIFOLIUM. Ditches and rivulets, of frequent occurrence throughout the district. Aug., Sept.

243. SISON AMOMUM. B. Sides of the lough at the Hirsel, plentiful, Misses Bell and Miss Hunter.

244. ÆGOPODIUM PODAGRARIA. Bishop-weed. In woods and in damp hedges, very common. June.

245. BUNIUM FLEXUOSUM. Earth-nut: Arnuts. Common in old pastures and on the banks of open deans. May–June.—Children dig up the roots and eat them; but they are hindered from indulging to excess by a cherished belief that the luxury tends to generate vermin in the head. When the little "howker" breaks the white "shank," he at once desists from his attempt to reach the root, for he believes that it will elude his search by sinking deep and deeper into the ground!

246. PIMPINELLA SAXIFRAGA. Dry banks, pastures, and in woods, common. The leaves vary greatly in the manner in which they are cut. Autumn.

247. Œnanthe Lachenalii = Œ. pimpinelloides, Smith. N. In the salt marsh at the mouth of the Warren burn, plentiful, Dr. F. Douglas. It may be conjectured that Œ. silaifolia (= Œ. peucedanifolia) grows intermixed, for specimens occur having linear radical leaflets, and frequently wanting the universal involucre. Trans. Berw. N. Club, i. 132.

248. Œ. crocata. Water-Hemlock. Hooker Brit. Fl. edit. 4, p. 116.—Watery places and ditches, frequent. Gregarious. June, July.—It is seldom that we find any trace of the yellow juice which, it is asserted, exudes copiously from the roots and herbage of this plant in other districts; but sometimes such a juice appears sparingly. Trans. Berw. N. Club, i. 55. The plant is poisonous. See Med. Facts and Observations, vii. 310: Christison on Poisons, p. 623: Pickells in Rep. Brit. Assoc. 1843, p. 81. In the "Lancet" for 1833–4, p. 860, it is stated that seven cows were killed by eating the roots in the month of January; and the case of a dairy-maid is detailed who narrowly escaped being poisoned after eating two pieces of the root, each of the size of a walnut.

249. Œ. phellandrium. Rare. B. Ferneyrig marsh, Dr. R. D. Thomson. Hirsel and Lithtillum lochs, Misses Bell and Miss Hunter. Aug.—The taste of the plant is disagreeable.

250. Æthusa cynapium. Fool's-Parsley. Corn-fields and neglected gardens, not common in the east, but very common in the west of our district. July–Aug.—Poisonous. See Christison on Poisons, p. 624: Don Gard. Dict. iii. p. 306.

251. Ligusticum scoticum. Pennant, Tour in Scotland, 1772, ii. 205. pl. 24.—On the entire Berwickshire coast from Lamberton Shiels to Redheugh. July.—When bruised the leaves have the smell of parsley, and much the same flavour. The seeds are more aromatic.

252. Silaus pratensis. Sides of roads and borders of fields, in damp places, common in Berwickshire and Roxburghshire, and not rare in N. Durham. Aug., Sept.

253. Angelica sylvestris. Jeelyco: Ground-Ash. Moist meadows and bogs, especially in deans, common. July.—"Broaches," or pirns, are made from the fistular stem. The swollen process at the base of the leaves usually contains a quantity of water. J. Hardy. The umbel of flowers of this, and of the following, are favourite resorts of many pretty insects.

254. Heracleum sphondylium. Cowkecks. Borders of fields and moist meadows, common.—The petals are sometimes tinged a beautiful rose-colour. The anthers are greenish-yellow.—Horses are fond of the weed; swine are fed with it; and cottagers collect the leaves for their cows. The stems furnish the mischief-loving schoolboy with his "spout" or water-gun; while he who is musically inclined converts an internodal piece into a whistle or flute.

255. Conium maculatum. Hemlock: Hemloke: Homloke,—but the name is applied by our peasantry to several of the large Umbelliferæ. The true plant is common in hedges and rubbishy places about Berwick and its vicinity, and perhaps about most of the villages on the east of our district; but, in the western parts, it is apparently rare. It grows in the neighbourhood of Dunse; but, in the course of a long and devious walk, between that town and Polwarth, it was only met with, and sparingly, at Choicelee. Near Old Melrose I have seen it nearly 10 feet in height.—June–July.—The odour from the Hemlock, on a dewy eve or morn, is very sickly and depressing, like that of mice in a confined room. It is a valuable medicinal plant. A decoction of the leaves, or a poultice made of them with the mallow, is a common application to painful sores and imposthumes. In autumn the ripened stem is cut into pieces to make reels for worsted thread.

The Hemlock is one of the most prominent in the catalogue of those herbs which compose the Pharmacopœia of the ancient faculty of Witches. Ben Jonson makes one of his hags say:

> "And I ha' been plucking (plants among)
> Hemlock, henbane, adder's-tongue,
> Night-shade, moon-wort, libbard's-bane;
> And twice by the dogs was like to be ta'en."

Other poets never fail to introduce it when they give us the composition of a good Witches' broth*. Suffice here to remember the witches in Macbeth, who throw "root of Hemlock digg'd i' the dark," with other items, into their seething cauldron. And hence the herbalists warn us that Hemlocke is a "naughtie and dangerous herbe," very "hurtful and venemous, in so much that whosoever taketh of it, dieth, except he drink good old wine after it." Lyte's Herbal, p. 522.

256. Scandix pecten-veneris. Witches'-needle. A common weed in corn-fields. It is one of those plants that occasionally appear in profusion on a soil turned up after a long and undisturbed burial. The stem has a sweetish taste; the fruit a more powerfully aromatic one with something of the flavour of celery. Some of our country-women call the long-beaked fruit the Deil's Darning-needle; and others Adam's-needle, from their unlearned conjecture that therewith our first parents stitched the primitive robe.

257. Chærophyllum sylvestre = Anthriscus sylvestris.—Under hedges and in woods, very common. June. When young the stalk contains a small quantity of milky fluid; and, when peeled, is rather agreeable, having a taste similar to that of young carrots. The fruit is aromatic in a slight degree.

* "The ointment of Witches is reported to be made of the fat of children dug out of their graves, the juices of smallage, wolfsbane, and cinquefoil, mixed with fine wheat-flour. But, I suppose, the soporiferous simples are fittest for this purpose, such as henbane, hemlock, mandrake, moonshade, tobacco, opium, saffron, &c." Lord Bacon. Syl. Sylv. ii. p. 169. Lond. 1818.

The leaves of our common hedge Umbelliferæ are very beautiful, both in form, division, and in colour. They are the types, and ushers in spring, of our summer ferns, and not less ornamental. They have a refreshing coolness about them that relieves and pleases the eye; but this is previous to the upward shoot of the stalk and its inflorescence. The Hemlock itself is beautiful in its spring foliage. —And the stems abide long after the leaves and the flowers have decayed, and the fruit has been shed; and become prominent amid those minor features which characterize the winter landscape. The dead cane-like stalks vary the hedge-row, stand conspicuous in the underwood of our deans and plantations, and remain in rough bogs and meadows as perches for the numerous finches. When the ground has been thickly covered with snow, I have been interested in watching these settle on the sprays for a moment, and then flit chirping away, shaking down the crystals of snow in a small shower, and strewing the white surface with the slender spokes of the imperfect umbels.

258. ANTHRISCUS VULGARIS. Road-sides, common. June. The smell and taste are peculiar and disagreeable.

259. MYRRHIS ODORATA. Myrrh. B. On the borders of Coldingham moor, Rev. A. Baird. On waste grounds at Blackburn mill. About Foulden mill, where it appeared a few years ago in profusion, and died away again in the course of a season or two.—R. Pinnacle-hill near Kelso; and at the side of the road at the race-course. On the Tweed above Old Melrose.—D. On the road-side near Cornhill. May.

260. M. TEMULENTA = Chærophyllum temulentum. Hedges, common. June–July.

261. DAUCUS CAROTA. Don Gard. Dict. iii. 354. Wild Carrot. Borders of fields and road-sides, common in N. Durham, and in the How-of-the-Merse, and wherever the subsoil is clayey. The var. 3. of Withering, Bot. Arrang. ii. p. 290, is as frequent with us as the normal one.—A decoction of the root, and an infusion of the seeds, was a popular remedy for gravel. The remedy is now rarely used.

262. TORILIS ANTHRISCUS. Hedges and borders of fields, common. Aug.—The flowers of this vulgar species are the prettiest of all our Umbelliferæ. They are white or rose-coloured with purplish-red anthers; the under surface of the petals is bristly; and the fruit, usually of a purplish colour, is covered with rough prickles that are curved and point upwards.

---

18. Archangelica officinalis.—Garden Angelica. "Amongst the rockes not farre from Barwicke." Johnson, Opusc. Omn. Bot. Merc. Bot. pars alt. p. 16. How's Phy. Brit. p. 8.

19. Smyrnium olusatrum.—B. "In Scotiæ littoreis rupibus non procul Bervico," Ray. Upon the sea-coast at Dunglass, on the edge of Berwickshire, Dr. Parsons.

263. T. NODOSA. Dry waste places, not common. B. Castle hills.—D. Plentiful in fields near Oxford. Holy Island, on the Heugh and Castle rock. June.

264. ADOXA MOSCHATELLINA. Damp shaded places. B. Dunglas dean, Rev. A. Baird. Sisterpath dean; and by the Pease burn above and below the forester's house: Blackburn-rigg dean, J. Hardy. In the wood above the Retreat.—R. Banks of the Tweed above Roxburgh; and near St. Boswells, Dr. F. Douglas.—D. Banks of the Till opposite Twizel-castle. April.

265. HEDERA HELIX. Don Gard. Dict. iii. 391. The Ivy: Brutwood. In deans on rocks, and on trees; and on old walls and towers. In many places Ivy covers the face of the cliffs that front the sea beneath, indifferent to the bitter blast which so often beats against it, and it descends unchanged to within a few feet of high water-mark. Here the Ivy clings close to the surface, creeping along, with its many feet, like a vegetable Julus; and it is only in our sheltered deans, *e. g.* in Dunglas and in Twizel denes, where it climbs the loftiest trees, that it throws its tendrils and its limber shoots freely off and abroad, as if the plant were conscious of the protection they would receive from their position:

> "Yet while they strangle a fair growth, they bring
> For recompense, their own perennial power,"

and become the most effective ornament to the scenery. It sometimes hangs its long graceful tresses down the face of dripping scaurs; and again it clambers up dry rocks and banks to a considerable height. How great an effect it may thus have in changing plainness to absolute beauty, may be witnessed daily at Castle-hills; and at the parish churches of Foulden, Ladykirk, and Polwarth.

We have an "Ivy-wood well" in our district. The name is apparently tainted with cockneyism, but the truth is, it has its origin in a time anterior to the introduction of that conceit into our northern parts. It was conferred as early at least as 1275. Raine's N. Durham, p. 76. The well is situated in a field called "Partan's Butts" near Howburne or Holburn in the parish of Lowick. It was circular and about 3 feet deep; but, within the last three or four years, it has been filled up and drained away into a neighbouring ditch. "The well was, and still is, famed for its medicinal qualities; and Miss Patrick, a lady well stricken in years, and whose family have resided for many generations in Holborn, tells me that her father was cured of a stomach complaint by a draught of it. Within her memory, it was in great request among the humbler classes in the neighbourhood. The water was never known to freeze in the severest winter, and was of excessive coldness in summer. I got a draught of it from the mouth of the drain, and found it quite pure and tasteless." —Mr. John Lowrey, in Lit. Aug. 12, 1852.—The well probably derived its reputation from the circumstance that Saint Cuthbert was believed to have drawn water from it. There is a tradition that, at one period, the Saint inhabited a natural cave hard-by, on the

southern slope of a long ridge of hills ; and the Ivywood well doubtless supplied his drink. Of this cave, still called St. Cuthbert's or Cuddy's Cove, Mr. Raine has given a description and view. See his Saint Cuthbert, p. 21; and the Hist. of N. Durham, p. 4 and 15.—The well may possibly have had even earlier reverence. The Christian missionaries were instructed to root up the worship which our primal ancestors paid to fountains (Lingard's Anglo-Saxon Church, i. p. 167) ; but when they found this could not be done, they turned the worship to Christian saints, by dedicating the Well to one or other of them. We have many of these in our district, and I have already mentioned some of them. Lady-Wells are many. There is a Lady's-Well at Cheswick, into which young maidens throw crooked pins ; as they still do into a more celebrated one near Wooler. I remember seeing pins that had been thus dropt into Dodd's Well near Berwick ; and in Tweedmouth there is a well dedicated to the Virgin, and another to Saint Mugnus,—the latter name strangely corrupted to Meggie-Muggie's well. There is a Lady's-well near Ladykirk. See further on this subject the Borderer's Table Book, vii. p. 132 : Stat. Acc. Scot. xiv. p. 46. It is usual to visit these Wells on the 1st of May before sunrise; and, after laving the face with the water, to drop unobserved a pin therein, making, at the same time, a silent wish, which must be buried in secresy. Hence the Wells are sometimes called " Wishing Wells."

The wood of the Ivy is believed to have no pith. The leaves of the high shoots lose their lobed and deltoid figure, and become almost entire and lanceolate. Steeped in vinegar they are a favourite application to corns ; and an ointment made with the powder of them cures tetters and ringworm.

266. Cornus suecica. Fl. Lapp. 38.—N. This " beautiful native of the Cheviot hills was first revealed to the curious " by Dr. Penny. " In Northumbriæ montibus Chevioticis dictis, in latere occidentali septentrionalis partis montis altissimi copiosissime," Ray. It still grows in the station indicated by Ray, and apparently in undiminished numbers. See " Cheviot revisited " by Mr. James Hardy in the Borderer's Table Book, vi. p. 404.

Dr. Thomas Penny must have been a genuine man. I wish that I could assert that he was a native of the north, and that it was the love of the hills he had looked upon in his childhood that drew him to simple amongst the Cheviots at a time when the journey was made with difficulty and not without danger,—when he had to horse it with guides, and carry all necessaries, " for the country was a wilderness which afforded no supplies." Macaulay's England, i. p. 285. The " great wood of Cheviot " was by this time much decayed, but still amidst the " many allers and other ramell wood," herds of red deer and roes ranged at will; and moss-troopers from either border hunted and were hunted there. It was a fine field for a venturesome naturalist ; and I would give a golden guerdon to see even as in a vision

---

20. Cornus sanguinea. This is found only in shrubberies with us.

this simpler as he tracked the Percys' hunting ground, and plucked the Cornus. There remains no journal of his voyage. He had been a great traveller; and was so learned, in plants especially, that he was called a second Dioscorides. His birth-place is unknown; and he died young—immaturâ morte abreptum,—in 1568, leaving a reputation which survives on the sole testimony of his many friends. See Mouffet Theat. Ins. argum. p. 1. Pulteney's Sketches, i. 83. (Pulteney, by an error, gives 1589 as the date of his death.) Gray's Brit. Plants, i. p. 15. Turner and Dillwyn's Guide, ii. p. 468. Nat. Lib. Mammalia, xii. p. 50.

John Ray's visit to Cheviot, and to the Cornus, was more than a century later than Penny's,—in June 1671; and thenceforward the hill was classical ground to the botanist. He has recorded no particulars of the ascent, nor do I much regret the omission, for Ray was curt and cold in his descriptions of natural scenery, and its beauty did not animate him*. A gossipy tourist followed him at the distance

* As a proof I shall quote here his description of Berwick, as he saw it, in 1661:—August 16th. "This night we lodged at Berwick; our journey was of about twenty-five miles. The river Tweed is here joined with a stone bridge of fifteen arches. Here hath been a very goodly castle, which is now demolished. The upper town is encompassed with a wall, which is not very strong; within this wall is a large void ground or green, whereunto the inhabitants bring their cattle, and let them stay all night, and in the morning drive them out again to pasture. The lower town is very strongly fortified with a broad and deep ditch of water, and against it an impenetrable bulwark or bank of earth, faced with freestone against the ditch. There are also for defence, four tall platforms or forts, besides external fortifications. This town is still kept with a strong garrison. There is in it a fair church, built by Oliver Protector. Here we saw in the cliff by the shore, a cave, called the Burgesses' Cave, not worth the remembering, and an hole in a rock, through which a boat may pass at full sea, called the Needle's Eye." Memorials of Ray, p. 152.—Let this be compared with the following written about the middle of the 17th century:—"In this Towne were in times past keept and maintained neare one thousand Soldiours.—This Towne was strengthened, environed, and is incircuited with strong walls and flankeirs, each rampier containing four or five great pieces of ordinance, and every flanker had two great ordinance opposite one to another, &c.—This towne hath severall secret vaults or passages, besides the common gates; it had two of the fairest windmills in Great Britaine; it hath a commodious key for shipps, a fair and stately stone bridge, built at the charge of the late famous, pious, prudent, and for ever memorable Prince and Monarch James king of Great Britaine, &c.—This towne had a stronge castle, situate upon a high rocke, in manner circular, but the want of repairing, as also the delapidation of the walls, cause the beholders to be sorry, considering the mounts, rampiers, and flankers, sometime so well replenished with great ordinance, and now looke like a new shorne sheep, these great pieces put away few knowes whither. This castle had faire houses therein, the walls and gates made beautifull with pictures of stone, the work curious and delicate; it had a large gallery couered over with lead; but the worke being unfinished by the death of the Right Honourable George Earl of Dunbarr, cause the pictures in a manner to weepe and feare their downfall. I must not omitt the faire built Pallace, sometime a court

of half a century. His account is prolix, yet as it gives us of this day a curious insight into the manners of the period, and a good description of the hill, I must not omit the quotation :— "When we came to Wooller, we got another guide to lead us to the top of the hill; for, by the way, though there are many hills and reachings for many miles, which are all called Cheviot-hills, yet there is one Pico or master hill higher than all the rest by a great deal, which, at a distance, looks like the Pico Teneriffe at the Canaries, and is so high, that I remember it is seen plainly from the Rosemary Top, in the East-riding of Yorkshire, which is near sixty miles. We prepared to clamber up this hill on foot; but our guide laughed at us, and told us we should make a long journey of it that way; but, getting a horse himself, told us he would find a way for us to get up on horseback ; so we set out, having five or six country boys and young fellows who ran on foot volunteer to go with us; we thought they had only gone for their diversion, as is frequent for boys, but they knew well enough that we should find some occasion to employ them, and so we did, as you shall hear.

---

fitter for a prince then a subject, but since Berwick's desolution, or rather destruction, it is almost laid levell with the ground." Note furnished by the late Robert Weddell, Esq. to the Editor of Dunbar's Poems, ii. p. 382. —Dunbar's description of our "good toun" is still better, and carries us back a century and more further, for it was written before 1539 :—

"As it befell, and happinnit in to deid,
Upoun a rever, the quhilk is callit Tweid;
At Tweidis mowth thair standis a nobill town,
Quhair mony lordis hes bene of grit renoune,
Quhair mony a lady bene fair of face,
And mony ane fresche lusty galland was.
In to this toun, the quhilk is callit Berwik,—
Upoun the sey thair stands nane its lyk;
For it is wallit weill abowt with stane,
And dowbill stankis castin mony ane;
And syne the castell is so strang and wicht,
With strait towris, and turattis hé on hicht,
The wallis wrocht craftely with all,
The portcules most subtelly to fall,
Quhen that thame list to draw thame upon hicht,
That it micht be of na maner of micht,
To win that houss be craft or subteltie;
Quhairfoir it is maist gud allutirly
In to my tyme quhair evir I haif bene,
Most fair, most gudly, most plesand to be sene;
The toune, the wall, the castell, and the land,
The hé wallis upoun the upper hand,
The grit croce kirk, and eik the Maisone Dew;
The Jacobene freiris of the quhyt hew,
The Carmelaites, and the Monkis eik,
The four Ordouris wer nocht for to seik;
Thay wer all in to this toun duelling."
The Freires of Berwick. Poems, ii. p. 3-4.

"Our guide led us very artfully round to a part of the hill, where it was evident, in the winter season, not streams of water, but great rivers came pouring down from the hill in several channels, and those (at least some of them) very broad; they were overgrown on either bank with alder-trees, so close and thick that we rode under them, as in an harbour. In one of these channels we mounted the hill, as the besiegers approach a fortified town by trenches, and were gotten a great way up before we were well aware of it.

"But, as we mounted, these channels lessened gradually, till at length we had the shelter of the trees no longer; and now we ascended till we began to see some of the high hills, which before we thought very lofty, lying under us, low and humble, as if they were part of the plain below, and yet the main hill seemed still to be but beginning, or as if we were but entering upon it.

"As we mounted higher we found the hill steeper than at first, also our horses began to complain and draw their haunches up heavily, so we went very softly; however, we moved still, and went on, till the height began to look really frightful, for, I must own, I wished myself down again; and now we found use for the young fellows that ran before us, for we began to fear, if our horses should stumble or start, we might roll down the hill together; and we began to talk of alighting, but our guide called out and said, 'No, not yet, by and by you shall;' and with this he bid the young fellows take our horses by the head-stalls of the bridles and lead them. They did so, and we rode up higher still, till at length our hearts failed us all together, and we resolved to alight; and though our guide mocked us, yet he could not prevail or persuade us; so we walked it upon our feet, and with labour enough, and sometimes began to talk of going no further.

"We were the more uneasy about mounting higher, because we all had a notion, that when we came to the top we should be just as upon a pinnacle, that the hill narrowed to a point, and we should have only room enough to stand, with a precipice every way round us, and with these apprehensions we all sat down upon the ground, and said we would go no further.

"Our guide did not understand what we were apprehensive of; but at last by our discourse he perceived the mistake, and then not mocking our fears, he told us, that indeed if it had been so, we had been in the right, but he assured us there was room enough on the top of the hill to run a race if we thought fit, and we need not fear any thing of being blown off the precipice, as we had suggested; so he encouraging us we went on, and reached the top of the hill in about half an hour more.

"I must acknowledge I was agreeably surprised, when coming to the top of the hill I saw before me a smooth, and with respect to what we expected a most pleasant plain of at least half a mile in diameter, and in the middle of it a large pond, or little lake of water, and the ground, seeming to descend every way from the edges of the summit to the pond, took off the little terror of the first prospect; for when we walked towards the pond, we could but just see over the edge of the

hill; and this little descent inwards no doubt made the pond, the rain water all running thither.

"One of our company, a good botanist, fell to searching for simples, and, as he said, found some nice plants, which he seemed mightily pleased with; but as that is out of my way, so it is out of the present design. I in particular began to look about me, and to enquire what every place was which I saw more remarkably shewing itself at a distance.

"The day happened to be very clear, and to our great satisfaction very calm, otherwise the height we were upon would not have been without its dangers. We saw plainly here the smoke of the salt-pans at Shields, at the mouth of the Tyne, seven miles below Newcastle; and which was south about forty miles. The sea, that is, the German ocean, was as if but just at the foot of the hill, and our guide pointed to show us the Irish sea; but if he could see it, knowing it in particular, and where exactly to look for it, it was so distant, that I could not say I was assured I saw it. We saw likewise several hills, which he told us were in England, and others in the west of Scotland, but their names were too many for us to remember, and we had no materials there to take minutes. We saw Berwick, East, and the hills called Soutra hills, North, which are in sight of Edinburgh. In a word, there was a surprising view of both the united kingdoms, and we were far from repenting the pains we had taken.

"Nor were we so afraid now as when we first mounted the sides of the hill; and especially we were made ashamed of those fears, when, to our amazement, we saw a clergyman, and another gentleman, and two ladies, all on horseback, come up to the top of the hill with a guide also as we had, and without alighting at all, and only to satisfy their curiosity, which they did it seems. This indeed made us look upon one another with a smile, to think how we were frighted at our first coming up the hill; and thus it is in most things in nature. Fear magnifies the object, and represents things frightful at first sight, which are presently made easy when they grow familiar.

"Satisfied with this view, and not at all thinking our time or pains ill-bestowed, we came down the hill by the same route that we went up, with this remark by the way, that, whether on horseback or on foot, we found it much more troublesome, and also tiresome, to come down than to go up."—From the Borderers' Table Book, vi. p. 401.

One hundred and twenty-five years afterwards the Club make the same excursion. They start, untended and on foot, from the "Tankerville Arms," pass through Wooler by its high street, and find a good post-road which leads them, between hawthorn hedges, to Earl. Halting a moment in front of the mansion, to look upon the beautiful and fertile vale that lies at their feet eastwards; they then round the shoulder of the green sheep-covered hill above, by an almost unperceived ascent, and gain the high ground which overlooks Middleton Hall, half hid amid its sheltering plantations. There may be some talk here of Earl Derwentwater and his sad story,—for the sheep around recall it by their "beesting" mark, which is the same as was used in the Earl's time, and before him. We descend the bank rapidly,

—the elder members only by the road,—and bring in view the vale of Langley-ford running up as far as eye can reach between steep and high hills on each side, and threaded by a water which flows, over its very stony bed, in a quick and troubled stream. The vale is narrow and peaceful, varying in breadth at every reach, and pastured with sheep; for although the bottom is stony, it is yet mostly covered with a close green herbage of Airæ, Dog and Sweet-vernal grasses, a large proportion of moss, much wild Thyme and Bedstraw, Yarrow, and white and yellow Clovers; and there are patches of heath here and there, with tufts of Broom, where the Blue-bells grow luxuriantly, and some very graceful Airæ. Where the bottom is stonier and bare the Digitalis grows in abundance, with some other plants of similar rankness; and the Teesdalia is found frequently by such as seek for it. There are likewise many plashy spots full of freshness and beauty, blue some of them with the Forget-me-not. The hill on the south side is well wooded with small trees and shrubs,—Alder, Hazel, Birch, Oak, Thorn and Roan-tree,—and is wet and slumpy towards the base, while the line above the wood is dry, carpeted with heather, or with large forests of the Braken. Under the shade of the trees there is a profuse variety of elegant Ferns, and of many herbaceous plants, some of which are rare, but none so eye-pleasing as the common Loosestrife, the Oxalis, and the Narthecium. The northern bank is higher and much steeper, clothed with green herbage partly, more so with heather, and in many places bare and rough with a long and broad stream of loose stones, where the Digitalis finds a footing, and the tufted Parsley-fern; and here and there a stunted Thorn, the remnant surely of an ancient race. The road winds along the base of this northern side, but we scarcely follow it. Sometimes on this side, and then on that of the water; sometimes in the wood peering for a rare Carex, sometimes climbing the bank opposite just to see what may be there, we get on somehow, and Langley-ford is soon in view. There are now irrigated meadows in the vale, and here and there a curiously cornered field of oats or of barley; a hirsel of sheep animates the moor above, and a little apart browse a herd of cattle. The shepherd, plaided to the chin, rises from his lair to scan, and his bristling collies advance to warn off, the unwonted crowd; but Moss and Cheviot and Lassie are soon "downed," and friendly, for they have caught the infection of good-nature from the Club. And Langley-ford is—? Why it is a pleasant onstead with a good farm-house roofed with slates, with houses for servants, with stables and byres, with a small stackyard tenanted with many choice hens, with a shrubbery, and a garden, and a greenhouse! Did such exist, in a ruder form, in the year 1727? One would conclude not from the English Tourist's silence; and yet it is known that the present worthy and hospitable tenant is the lineal continuator of a series of favourite retainers of the Haggerstone family, who have lived here for many generations back. The Englishman's fears had blinded him. The vale becomes a ravine above the settlement, and is almost entirely occupied by the burn that divides the two great hills of Cheviotland from each other,—Hedgehope and Cheviot proper. We decide on ascending the latter, which

we do with less "peching" than did our equestrian pioneers; and all we regret is that the old salvage character of the hill has disappeared, —and all we look for are bits of rough ground, or a green oasis, or a steeper bank whereon we may, perchance, pick some yet unrecorded novelty. At least we renew an acquaintance with many an old friend, and well we love to do so; nor can we altogether refrain from carrying away in our vasculum some few especial favourites, the Cornus for example. And so we reach the top,—broad, level, and dirty, and seamed over with many deep ruts, more or less filled with water; and it is in them that Carex rigida grows in tufts. The landscape scanned, the Club descend, some by the way they came, some by a more difficult route; and all meet in the vale, which they retrace with quickened steps that they may reach the Tankerville Arms in good time for dinner. After two hours' chat, the Members separate each to go home his several way, and pleased with their little excursion.

267. SAMBUCUS EBULUS. Waste grounds, rare. B. Near Coldingham, Rev. A. Baird. Banks of the Tweed and of the Leet near Hirsel, Miss E. Bell and Miss Hunter. Linton church-yard; and at the church-yard of Longformacus.

268. S. NIGRA. Don Gard. Dict. iii. 437.—*β.* with laciniated leaflets in Bunkle wood, and in a hedge below Lintlaw.—**The Elder: Borral, Boon,** or **Bour-tree.** Well known to every schoolboy in the district, who fabricates his pop-gun from its pithy branches.— "That's a perilous shot out of an elder gun, that a poor and private displeasure can do against a monarch." King Henry V. The abundance of heart that it possesses, and its extreme "bruckleness," are subjects of common remark. I suppose it is from the latter circumstance that, in Shakespeare, it is said, "Judas was hanged on an elder."—The word *σαμβύκη* signifies a musical instrument, to construct which this wood seems to have been applied. Such an instrument I have seen used as a flute, but extremely rude in form, and to the ear as grating as a "scrannel pipe of wretched straw."—J. H.

The Elder is truly indigenous with us. It is found in several of our most sequestered deans, even amidst the Cheviots, as in the beautiful haugh down which the Colledge runs on its way to the Glen. I saw several fine trees of it a little below Heathpool linn*. It is more common as a cultivated shrub, planted in hedges to screen garden plots, or as a single bush in shrubberies. As a hedge it is found from the sea-side to the shielings in our high moors; and old bushes may generally be seen growing, all knaggy and wormed, about decaying onsteads in our most sequestered parishes. Its quick growth, and indifference to civil treatment, have had their share in recommending the Elder for fence purposes; but it is also known that our forefathers environed their dwellings with it from a belief that it was a bulwark against warlocks, witches, and their fascinations. Keight-

* On the indigenous claims of the Elder, see Bromfield in the Phytologist for 1849, p. 416. He is, however, wrong in supposing that it is "naturalized" only in Scotland.

ley's Fairy Mythology, p. 93. Auchincraw, *e. g.* was famous for being the residence of those given to unlawful arts (Hist. Berw. N. Club, i. p. 123); and nowhere can I remember to have seen so many old and ugly Elders. The Witches died with the present generation; and the Elders have been rooted up as useless.

The Elder has been long celebrated in rural pharmacy. An ointment made with the juice of the bark was famous for healing sores and scurvy spots; and it is still used by doctors of the gipsy and mendicant orders. The green fetid leaves, boiled in olive oil, form what is known by the name of "Oil-of-Swallow," and is in high repute as a cure for sprains and bruises *. The berries, sometimes called Winlin-berries, are made into a sort of wine or syrup for winter colds; and the preparation is still in use with, perhaps, some lesser faith in its efficacy.

An infusion of the inner bark in white wine (3 oz. to the pint) has suddenly become, in our borough, a vaunted remedy for dropsy, from the relief which has followed its use in a very few cases. It is an old, and was once a favourite hydrogogue. The earliest medical authors agree in commending the Elder for the cure of dropsy. Adam's Paul. Ægineta, iii. p. 30. And our early herbalists, who directed the popular practice in England, do the same; but it is uncertain whether they merely copied from the Greek and Roman physicians, or spoke from their own experience. Gerarde, after telling us that the Elder generally hath a purging qualitie, says,—"The inner and greene bark doth more forcibly purge: it draweth forth choler and waterie humors; for which cause it is good for those that haue the dropsie, being stamped, and the liquor pressed out and drunke with wine or whay." Herbal, p. 1423. And Parkinson, in his Theatrum Botanicum, informs us that "the distilled water of the inner bark is very powerfull to purge the watery humors of the dropsie or timpanie, taking it fasting, and two houres before supper." It were useless to produce the other herbalists in evidence; and we rest content with Ray's summary of his predecessors' experience, when he concludes that the bark "educit serosos humores, unde et Hydropicos juvat." Hist. Plant. ii. 1609.

The unconditional commendation of their remedies,—the crudeness of their preparation,—and the queer qualities arbitrarily assigned for their operation, cast a suspicion over the histories of these worthy men; whose simples gave place to new remedies with more power and less nauseousness. But the Elder maintained its reputation. One volume at least was written to display in entirety its virtues; and a reverend author declared that no shrub deserved a greater regard, for "the medicinal use of its several parts is extraordinary." Borlase, Hist. Cornw. p. 225. Boerhaave and Sydenham, perhaps the two greatest of our practitioners, had satisfied themselves that the juice of the inner bark was the most valuable of diuretics (Sydenham's Works, ii. p. 176: Good's Study of Medicine, iv. p. 363); and their

* The genuine Oil of Swallows is, however, a different composition; and the receipt for making it is given at length in Willis's Current Notes for January 1853, p. 7.

evidence ought to be admitted as valid, with a reserve in favour of remedies subsequently discovered or introduced. And this point seems fatal to the re-introduction of the Elder.

Dr. Cullen was the contemporary of Boerhaave, and yet, in a long and large practice, he seems never once to have prescribed the Sambucus in any form. Casting a learned and a sceptical eye over the past, he could not but perceive that the Materia Medica was cumbered with remedies which owed their first use to puerile conceits that were about to be forgotten, and their reputation to the vulgarest empiricism. He was a pure dogmatist,—a bold and an original thinker; and, pushing forwards into new paths, he did not lumber himself with the idols of his fathers, nor with their traditional offerings. The Elder seemed to him of this class; and his neglect of it operated mainly to remove the plant from regular practice. The Elder was thenceforward scarcely prescribed, and if it was allowed a place in the Dispensatory, it was with a very qualified estimate of its properties. Thus Dr. A. Duncan, in his Edinburgh New Dispensatory, says,—"An infusion of the inner green bark of the trunk in wine, or the expressed juice of the berries in the dose of half an ounce or an ounce, *is said* to purge moderately, and in small doses to prove an efficacious deobstruent." —The evidence is hearsay, and so it is in every subsequent Dispensatory; for indeed the remedy was left entirely now to those who, uneducated in medicine, read a Herbal, and physicked their friends to their comfort, and the annoyance of the doctor. By one of those, no doubt, the remedy was introduced to us; and after some occasional use by Sir Credulous, who is ever on the look-out in search of a specifick, it will be again neglected and forgotten.

269. VIBURNUM OPULUS. Dog-wood. Occurs sparingly in most of our deans, and by the sides of burns. June.

270. LONICERA PERICLYMENUM. The Honeysuckle. In deans and amongst rocks, as on Kyloe crags; often growing intermingled with wild briers. Common in hedges. It is the Woodbine of our poets in general; and some give it the name of Eglantine.

"Ah how swete and pleasaunte is Woodbinde, in Woodes or Arbours, after a tender soft rain: and how frendly doe this herbe if I maie so name it, imbrace the bodies, armes and branches of trees, with his long winding stalkes, and tender leaues, openyng or spreding forthe his swete Lillis, like ladies fingers, emōg the thornes or bushes." N. Bulleyne. The Book of Simples, fol. xxii.

"Then to come, in spite of sorrow,
And at my window bid good morrow,
Through the sweet-briar, or the vine,
Or the twisted Eglantine."—L'Allegro.

"The wild rose, Eglantine, and broom,
Wasted around their rich perfume."—Lady of the Lake.

"Sleep thou, and I will wind thee in my arms.
So doth the Woodbine,—the sweet Honey-suckle,
Gently entwist,—the female Ivy so
Enrings the barky fingers of the elm."—Midsummer Dream.

The leaves are often marked with the wayward course of a caterpillar which eats a channel between the two skins. Children bite off the end of the long tube of the flower to obtain the honey inside, which is not unmixed with bitterness. Bees take the same compendious way of robbing the nectary of the Columbine. The berries, though luscious and tempting, are deemed poisonous. Walking-sticks fantastically carved with the serpentine rings of the 'Honeysuckle' are much admired by rustic beaux. J. Hardy.

271. LINNÆA BOREALIS. Lin. Fl. Lapp. 214. tab. 12. fig. 4. B. In a fir wood on Lightfield farm near Mellerstane. June–July. As a native of Berwickshire this interesting plant was discovered by Mr. Dunn, gardener at Mellerstane; and the discovery was communicated to the Club by Mr. Heslop. In the summer of 1842 the Club sought for the plant without success (Trans. Berw. N. Club, ii. p. 6); but in 1843 they had the pleasure of seeing this ever-green and ever-fragrant memorial of their great master, growing wild, in two or three considerable patches. Specimens were taken by Mr. Selby, and planted in his dean at Twizell-house, where they have thriven.

272. SHERARDIA ARVENSIS. Dry sandy fields, especially in new pastures; and waste places, common. Summer.

273. ASPERULA ODORATA. Woodruff: Sweet-grass. In deans abundantly. June.—The dried leaves are placed in drawers with linens to impart to them a sweet smell. Children put a whorl between the leaves of their books with a like purpose; and many people like to have one neatly dried laid in the case of their watch.

274. GALIUM CRUCIATUM. "Galion or Gallion is named in English in the north countrye Maydens heire," Turner. Common in thickets and meadows. May, June.

275. G. PALUSTRE. Boggy places and ditches by hedge sides, frequent. The variety β. = G. Witheringii, is met with in bogs on all our moors. July, Aug.

276. G. ULIGINOSUM. Watery and rush-grown bogs, not uncommon. Aug.

277. G. MOLLUGO. B. In hedge bottoms, scattered. Near the farm-house of Cocklaw in the parish of Ayton. It appears to be not uncommon in the How-of-the-Merse. I have seen it near Mountfair; Mr. Hardy finds it near Milne-Graden Mains; and my friends Miss Bell and Miss Hunter communicate it from near Anton's-hill, and from the grounds of the Hirsel. June.

278. G. BOREALE. This fine species is also not uncommon in the How-of-the-Merse, growing in rough rather moist places, and very conspicuous from the number and pure whiteness of its flowers. B. Road-side near Fishwick-w.-mains, sparingly. On the Scart crags above Milne-Graden, and on other rocks by Tweed-side near the same

---

21. Viburnum Lantana. "At Sir John Hall's in Dunglass-glen," Dr. Parsons.

place. Bog south of Hardacres near Eccles; and road-side north of Hatchetneze. Gateheugh. Road-side near Edrom; and near Coldstream and Anton's-hill. Very abundant in the east end of a plantation by the road-side as you go from Hutton-Hall to Broomdikes, just where the Broomdikes' road goes off from the path leading to Crossrig. The Trollius europæus grows in the same spot. By the road-side, sparingly, near Loan-head to the west of Allanbank; and in rather an unfrequented road, called 'Jock's-hole loanin,' which runs between the farms of Lintlaw and Billy-Mains, in two or three large patches. G. Henderson. R. Banks of the Tweed at Trows'-crags; and road-sides in the parish of Sprouston. Dr. F. Douglas. July.

279. G. SAXATILE. Heaths and banks in sunny deans, forming patches covered with white flourish. June–Aug.

280. G. APARINE. A common weed, called Robin or Lizzy-run-the-hedge when it climbs up and amidst our quick fences to the length, perhaps, of 20 feet; and Robin-run-the-dyke when it creeps over or along the base of our stone walls with a more branched and closer growth. It is also named Grip-grass, because the prickles of its leaves, and the bristles of its fruit, make it catch at everything. Children, with the leaves, practise phlebotomy upon the tongue of those play-mates who are simple enough to allow it; and hence they call the plant Bluid-tongue or Tongue-bluiders. A tea made from it was wont to be prescribed in a cold or "stuffing about the head."

The abundant crop of seedlings that appear in winter, under the shelter of the hedge, form green level patches which remind me of those of the shore-loving Arenaria peploides,—a resemblance which is produced by the size and closeness of the leaflike cotyledons. These are large and flat, ovate, slightly emarginate, and roughened around the edge with asperities not visible unless under the magnifier. The upper surface of the leaves of these young specimens is entirely covered with spinous warts.

281. G. VERUM. Don Gard. Dict. iii. 654. Dry banks, edges of fields, and on our sandy links, where it is very useful as a binder of the loose sand. The odour of the flowers is sweet, as are indeed those of the genus in general, but strongest in this species; and as the flowers are exceedingly numerous and clustered, our common people call the plant A Hundred-fald.

282. VALERIANA OFFICINALIS. Valerian. Sides of water-courses, rough woods, and boggy places, generally distributed. With us, as in Lapland, "semper locis subhumidis occurrens et inodora." Our plant, in general, is referable to the variety named V. sambucifolia, Bot. Gazette, i. p. 34. = V. officinalis, Smith, and beautifully figured in Stephenson and Churchill's Medical Botany, ii. pl. 54. In Twizell-house dean, and otherwise, I have, however, gathered specimens with 16 and 17 leaflets. These were, I presume, the true V. offici-

---

22. Valeriana pyrenaica.—R. Banks of the Tweed below Pinnacle-hill, Kelso, probably the outcast of a garden. Dr. F. Douglas.

nalis; but in the same patch that furnished them were stems that had 13, 11, and 9 leaflets to a leaf. To which variety was I to refer the latter? The variety with 17 leaflets grows as a weed in the garden at Newwaterhaugh; and amidst the stone-work and rubbish that fronts the mouth of the Whiteadder. July.

283. V. DIOICA. Boggy places, frequent. June.

284. FEDIA OLITORIA = Valerianella olitoria. Dry banks, not common. B. Castle-hills; and on the hedge bank between Newwaterhaugh and the Whiteadder. Ravine above Ross; and on the banks of the Eye near Netherbyres in the east; and in the west at Ordwheel on the Whiteadder.—D. Abundantly below the Union Bridge.—R. Banks of the Tweed below Rosebank toll, Dr. F. Douglas; and on the Eden near Stitchell lynn. May.

285. F. DENTATA = V. dentata. In corn-fields rare with us, but I found it, some years ago, plentiful enough in the neighbourhood of Warren-ford, N. June, July.

15. *Dipsacus fullonum*. Don Gard. Dict. iii. 682. Teasel. Occasionally seen in waste grounds near gardens, whence it was an outcast. It may be considered as naturalized about the old bowling-green at B. Newwaterhaugh, and in hedges near the lodge of Netherbyres house. I once saw a small field cultivated with it near Melrose. Aug., Sept.

286. SCABIOSA ARVENSIS = Knautia arvensis. Don Gard. Dict. iii. 687. Curly-Doddies. Corn-fields, road-sides, open deans, and pastures, common. July.—The provincial name is derived from the resemblance of the head of flowers to the curled pate of a boy, and is very ancient. See Minstrelsy of the Scottish Border, i. p. clx.

> "Where yon Blue-bells and Curly-doddies bloom
> On the fair knowe, amid the waving broom,
> There have I sported with the gleesome band,
> And heard their glad shouts echoing o'er the land."

From "Scenes of Boyhood," by George Henderson, Surgeon, Chirnside.—The flower affords a horologe of a primitive sort. The head is twisted round a few times, and then left to recover its position. The number of circumvolutions is the true index to the time of day! J. Hardy.

287. S. SUCCISA. Devil's-bit. In deans and moor pastures,

---

23. Dipsacus sylvestris. My friend Dr. James Thompson gathered a specimen or two on a piece of waste ground near D. Shoreswood-Redhouses; but the locality was one liable to annual change, and variously appropriated. The late Rev. A. Baird found it in a small plantation between Cornhill and New-Learmouth, whence I have a specimen picked by Mr. R. Embleton; but, from the recentness of the plantation, the indigenousness of the weed may be doubted. There is no doubt that it was never cultivated, but it may be merely a degenerate descendant of D. fullonum.

especially where the soil is damp and peaty, very common. Autumn. A variety with pinnatifid stem-leaves is occasionally found in Berwickshire. W. Baird. Mr. Hardy has described another variety *β. laxiflora*. Bot. Gazette, i. 133: Ann. and Mag. N. Hist. Ser. 2. iii. 424. "In the usual state of this plant, the flowers are densely capitate, and the lobes of the corolla are nearly subequal, somewhat exceeded in length by the stigma, while the stamens project about twice their length. I have, however, gathered a variety in Penmanshiel wood, with the general involucre small, the heads of flowers loose, and few-flowered, the external lobe of the corolla much lengthened, the stigma little longer than the throat of the flower, scarcely exceeded by the stamens, all of which are shorter than the floral divisions. The plant is of the full size of the ordinary specimens beside which it grows."—Of this Scabious Mr. Hardy further writes me: "On the sea banks between Dulaw and Redheugh (the rock being greywacke), this plant is remarkably luxuriant, the foliage of a light-green hue, and almost always glabrous; while the claw of the florets is more developed than in the usual state of the plant. On red sandstone rocks, in a similar situation, the plant is ordinarily luxuriant, the light-green colour of the leaves is retained, but the pubescence is resumed."

288. S. COLUMBARIA. Dry pastures and banks, frequent in our district. B. Castle-hills. Sides of the ravine above Newfarm. Banks of Tibby Fowler's glen. Crags below Nenthorn on the Eden.—D. Banks of the Tweed below West-Ord.—N. Spindlestone Hills.—R. Stitchell lynn, Rev. Thos. Brown. June–Aug.—A pretty species.

COMPOSITÆ.

289. EUPATORIUM CANNABINUM. Filacra or Filapra. Boggy places and plashes by burns. Gregarious. B. Dodd's-well, and on similar places of our sea banks between this and Marshall-Meadows. In many of our wet deans near the sea. D. Horncliffe dean. August.

290. TUSSILAGO PETASITES = Petasites vulgaris. The Butterbur, viz. the large Bur, so named from the size of the leaf, which is the largest of any British plant. Turner says that, in his time, it was called "an Eldin"; and the Rev. Mr. Hodgson says that "at Whelpington, it is called an Ell-docken." Memoir, p. 63. A skilled person from the neighbourhood of Jedburgh named it for me the Eldin-Docken; and added that a decoction of the roots was much in use for the cure of scorbutic or leprous complaints. The plant grows by river sides, in extensive patches, and in deans, and wet corners of meadows where the soil is deep and sandy. The jungles it forms, when in full

---

24. Aster salicifolius. D. I have found this American growing by the Tweed side opposite Fishwick-mains; and I have been told that it has almost naturalized itself in Hirsel woods on the Leet.

25. Erigeron acris. "Links at Holy Island in a direction north from the Castle, plentiful," Thompson. Often sought for in vain; but, in 1835, Dr. F. Douglas found a single specimen near the Coves.

leaf, are troublesome to the angler, but they shelter the nests of many birds; and the early flowers are much visited by bees.

291. T. FARFARA.—Horse-hoof: Coltsfoot: Dishylagie—evidently a mispronunciation of the Latin name.—Common in moist clay soils. March, April.

292. ASTER TRIPOLIUM. Salt marshes. B. and D. Sides of the Tweed below Castle-hills, and on Yarrow-haugh. D. On the coast beyond Goswick links. "On the strand at the ostium of Warn rivulet, by the ford, near Budle," Wallis. Aug., Sept.

293. BELLIS PERENNIS. Hone's Every Day Book, ii. p. 286.—The Daisy: The Gowan.—In former times (1538) the Bellis, as Turner informs us, was called in Northumberland the Banwort, and the name Daisy was applied to a scarlet flower. The passage is as follows: "There are twoo kyndes of Dases, one wyth a reed floure which groweth in the gardynes, and an other whyche groweth abrode in euery grene and hyghe way: the Northern men call thys herbe a banwurt because it helpeth bones, to knyt agayne."—This is good authority, but I cannot learn that Banwort is ever now so applied. And Gowan is usually said to mean a yellow or golden coloured flower, which the Bellis is only secondarily, and the name may be derived from the Celtic *guen* or *guener*, fair or beautiful, which the Bellis is primarily and pre-eminently. It does not flower "in every season fresh and fair," as a pet poetess chooses to affirm; but chiefly so in May, as Ramsay has properly and poetically told us:

> "Twa youthfu' shepherds on the Gowans lay,
> Tenting their flocks ae bonny morn of May."

and again:—

> "while 'tis May,
> Gae pou the Gowan in its prime,
> Before it wither and decay."

294. SOLIDAGO VIRGAUREA. Deans and on heaths, but it likes the shelter of brushwood. Common. July–Sept.

295. INULA DYSENTERICA = Pulicaria dysenterica. Boggy places, rare. B. Dodd's-well; and on Castle-hills, in both stations abundantly within my remembrance, but it has been recently eradicated or nearly so. It may reappear. In a field by the willows in Tibby Fowler's glen. By the sea-side near Lamberton old coal pit, A. A. Carr. Banks of the Leet about ½ a mile above Coldstream, R. C. Embleton. On the Tweed above Horndean burn; and on Holywell haugh near Lady-kirk, W. Baird. This haugh was the place of meeting for trying the claims of the various competitors for the crown of Scotland, June 2, 1291. See Ridpath's Bord. Hist. p. 174.—"The place where the assembly met was Holywell-haugh, and it is described in the record as a green plain in the open air, near the river Tweed, opposite to Norham castle, within the parish of a town called Upsethington, belonging to the diocese of St. Andrews in

Scotland." See also Chambers' Pict. of Scotland, p. 7.—D. Holy Island links, confined to a small spot, Dr. F. Douglas. Aug., Sept. In many seasons this plant does not flower with us.

296. Bidens tripartita. Marshy places, very rare. N. By the side of a ditch near the brewery in the village of Chatton, Jas. Mitchell.

297. B. cernua. Very rare. B. Pond near Girtrigg on the farm of Ladyflat, in the parish of Langton, Rev. Thos. Brown. Aug., Sept.

298. Anthemis arvensis. Waste ground and new pastures, abundantly when it occurs, but its distribution is irregular, and its continuance in any one locality rather uncertain. B. Mr. Hardy finds it "in fields near Penmanshiel;" Mr. W. Dunlop showed me it so growing at Mayfield; and it grows very fine in cultivated fields at Monnienut,—all localities on, or trenching on, the Lammermuirs. In the How-of-the-Merse Mr. Henderson tells me it occurs on the site of the ancient "crofts" of Little-Billy, on the farm of Billy-Mains; and I find it near Paxton and Scotch-Spittal. It came up in profusion by the side of the railway, when first made, below Houndwood; and again on the farm of Auchencrow-Mains, G. Henderson. Near Dryburgh, Professor Balfour.—D. Abundant in the village of Norham, on the green which runs down from the market cross. Near Cheswick Buildings; and about the inn on Doddington moor, N. July.

16. *Anthemis nobilis.* Chamomile. This had become naturalized on the W. bank above Chirnside bridge, but as I have not seen it there of late years, I presume recent improvements have removed the plant. It grows almost wild in many of the garden plots of our hinds, and in the gardens of the master, for chamomile tea is justly deemed a good stomachic; and to lie down upon a bed of chamomile is a cure for headache. Curiously some believe that toads suck their venom from the Chamomile,—a belief which has arisen from the fact that the reptile is often seen creeping about its beds. It is a common remark that the more Chamomile is tramped upon, the better it grows; and this notion is often brought into requisition by the old divines. J. Hardy.

299. Achillea ptarmica. Common in muirish pastures, and on roads and sides of lanes through fields of a poor soil. July, Aug.

300. A. millefolium. Millfoil: Yarrow: Hundred-leaved grass: Thousand-leaved Clover: Wild Pepper.—Pastures, wastes, and way-sides, very common, varying with white and pink and rose-

---

26. Anthemis cotula. This is mentioned as a common weed by Bailley and Cully in their Agricultural Survey of Northumberland; and from the "Botanist's Guide" it would seem as if it were far from rare either in that county or in Durham; but it has never once occurred to us on the Eastern Borders.

coloured flowers. The latter variety has been introduced into gardens not unworthily.—The herb was, in former times, esteemed for its vulnerary virtues:

"The Yarrow wherewithall he stops the wound-made gore,"

sings Drayton; and it is esteemed yet by our herbalists, who gather it in considerable quantities. They give it, however, only in ill-defined stomach complaints.

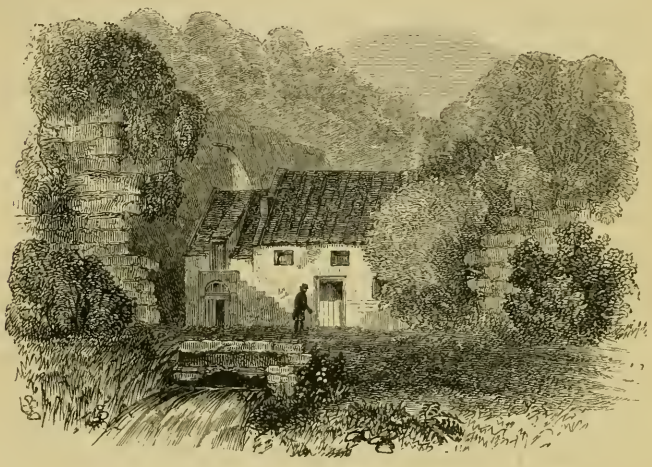
301. CHRYSANTHEMUM LEUCANTHEMUM. Big Daisy: Ox-eye: Ox-eye Daisy. Dry pastures and way-sides, common; and especially abundant in limestone pastures, which are often white in summer with its large showy flowers. It is also common, in corn-fields, in the heart of the Lammermuirs, where they call it the Horse-Gowan. June–Aug.

302. C. SEGETUM. Corn Marygold: Yellow Goulan. In corn-fields in a few scattered localities. B. In fields below Lamberton near the Coalery; on Fairneyside farm; and near Gunsgreen house. I have seen it in fields near St. Abb's-head; and Mr. Henderson finds it abundant among the corn in some of the fields at Greenhead in the parish of Coldingham. In fields about Craigswalls, parish of Edrom, G. Henderson. At Fireburn mill near Coldstream, R. Embleton. In the vicinity of Gordon, on reclaimed moorish soil, abundant, Dr. F. Douglas.—This weed, "of glorious feature," was once so abundant, that statutes were made, by the Scottish parliament, to ensure its eradication; and to preserve itself it has now no place of refuge but the garden. June–Aug.

303. PYRETHRUM PARTHENIUM = Matricaria parthenium. Fe-berfew: Feather-fooly or Feather-full, a corrupt spelling of "feuille," viz. the plant with a feather-like leaf.—Waste grounds about all our old villages and homesteads. Abundant and luxuriant in Horncliff dene. July. It is used as a remedy for the "Felon" of cows. The following was an old Berwickshire cow-doctor's favourite prescription: "Gie the cow a handful of Feather-fully, a handful of rue, a handful of peppermint, and half a bottle o' wine, and be gude till her." J. Hardy.

We had taken an early tea with some friends in the cool parlour of their summer lodgings in Horncliffe. The day had been very warm, and the village lay almost smoking amid its styes and manured curtains,—dull and dirty as the large-dugged sow that lies there in the sun, breathing forth a genial air, and almost grunting pleasure when, with a lazy effort, she wrinkles her sides, and shakes her dewlapt ears, to drive off the crowd of bloated blue-bottle flies that, thus disturbed, buzz their short circuit and again settle in the filth. The sun, then, had advanced somewhat to the west, but the warmth had scarcely abated, when we merrily left the village, nor had well passed from its precincts, until we had gained the river's bank, and were halted per-

force to scan the landscape before us. A rudely built cottage is behind,—at our feet a precipitous bank, half cultivated, half o'ergrown with coarse weeds, that touches the water and compels it to make one other bend and a tardier course. Beyond—an alluvial and richly cultivated haugh lies spread out, bounded to the left by a sweep of the



HORNCLIFFE: ITS MILL.

river and a green-swarded bank,—while on the right a wooded ravine opens on the view, where some willows wave their silvery foliage; and a secluded cemetery near at hand tells its tale with effect. But the Silver Tweed, which has here reached its full breadth and depth, is still the principal feature, and the pleased eye follows up its sinuous track, easy and graceful and unconstrained as the serpent's glide. It leads us on to alternating banks and holms,—to woods and fructuous plains,—to the ruined keep of Norham Castle,—to the opposed and humble spire of Ladykirk, which yet records the gratitude of James IV. for his delivery from drowning when, by night, he crossed the river on his return from the company of the fair ladies Heron of Ford. In the far distance a varied scenery relieves, for a time, the eye satiated with nearer beauty,—in the centre the peaked hills of Eildon and castellated ruins,—to the right the tripled range of the Cheviot hills, and on the left the less elevated and rounded chain of the Lammermuirs enclose the wide amphitheatre. You must add life to the landscape: —the fisherman and his boat, the uncoated ploughman, the row of bondagers on the haugh with the light rattle of their hoes, the picked hay, the flocks of sheep and kine, the corn ripening to the harvest, the swallows that flit so numerous along the bank and over the calm reflective water, the loud whistle of the blackbird from the dean, the song and the thousand chirrups of the sparrow and sweeter birds!

But we tarry:—let us walk on, single-filed, led by the footpath which runs along th uneven top of the bank, and protected by an unclipped and high hedge from the eastern breeze that begins to blow, and has a chill in it even at this season of the year. We gain the deep gully to the left, and, without descending, we turn up the ravine, which is sylvan and would be fine where deans are few, but has no peculiar attraction in our district. Planted on the further and least declivous side, it is overgrown with whins, sloethorn, briers and roses, broom, coarse grasses, thistles and ragworts, and all their concomitant weeds and flowers on this side, while a little burn, with scarce audible noise, runs lippering in the bottom. Amidst undefined rural sounds, not sufficient to interrupt the talk of a friendly party, we stroll onwards leisurely; and there is every indication in the lessening depth of the dean, and its greater width beneath, now almost a meadow, that we shall soon emerge upon the level country. And now the stile has been got over, not without some laughter-provoking awkwardness, and we descend along a rough cart-road that, in a minute or two, introduces us to the secluded beauty. It is really pretty and picturesque, and though often seen, never seen without new pleasures, for its aspect varies with the season, and with the day, and with the hour. It is a spot—a mere vignette—which sketchers love to transfer to their albums, and this is easier than to portray it in words. I stand at the ruined huts with their walls and thatch dotted with moss, groundsel and lichens grey, and shaded by three or four tall umbrageous elms rejoicing in the freedom of nature, while near them some gooseberry and currant bushes struggle to prolong a sickly existence within a slight remnant of fence that once guarded the little garden. On one side the high bank above is rough and rude, and rendered effective by a perpendicular wall of naked sandstone rock left by the workings of a deserted quarry;—on the other side the bank is also steep, but first green and grassy, fit for primroses and violets in spring, while a little further on they are covered with sloe and brushwood from which some planted trees rise up, and the underground is occupied to choking with arching roses, honeysuckle, ivy, and a myriad of flowers of every class and hue. And gradually, as in perspective, do these contrasted banks draw to each other, and narrow a space, partly occupied by an irregularly built mill in perfect keeping with the site, and partly with a ledge of dark rock covered with dripping feathery moss,—and this dyke and mill terminates the dean and closes in the view. The cottages and their trees is one picture,—the mill is another with its curious vane, its outside stair, its loop-holes and half closed doors, its uneven roof and piebald roofing tufted with gay weeds and mosses. And a little runlet sometimes tumbles over the ledge in rivalry of a waterfall, but just now it trickles fast and showery through the pendent moss into a shallow pool, whence it merrily trots forward, now open to the thirsty sun, now peeping under the span of a single-stoned bridge, now sheltered amidst tall grasses, eupatoria, mints and other semi-aquatic plants, and now again enlivening the green sward of the meadow on which a few cows are pasturing alone;

for the flock of geese that were there on our arrival are wending their homeward way up the bank, gurgling and hissing at being frayed away by the noise and wild play of the unruled children. And who would check the exuberant wantonness of them!

> "And I will have my carcless season,
> Spite of melancholy reason;
> Will walk through life in such a way,
> That, when time brings on decay,
> Now and then I may possess
> Hours of such perfect gladsomeness."—WORDSWORTH.

304. PYRETHRUM INODORUM = Matricaria inodora. Horse-Gowan.—A weed over our whole district. Summer.—A variety (β. obesior), hitherto erroneously considered to be the P. maritimum, is found on the coast of Berwickshire at Burnmouth almost touching the line of the tide; at St. Abb's-head; and between Dulaw and Redheugh. The plant is depressed and spreading with fleshy leaves, which turn blackish in drying. The scales of the involucre are darker than those of the inland plant, but still they are pale when compared with the brown uneven or undulated margin. This, however, is entire. See Fries Sum. Veg. Scand. i. 186.

305. ARTEMISIA ABSINTHIUM. Wormwood.—Waste grounds about villages; and on sites where villages have been. Aug.

306. A. VULGARIS. Mugwort.—Waste places and under hedges. It often grows intermingled with the preceding. Aug.

307. A. MARITIMA. Sea-Wormwood.—D. In an early publication Turner says,—"I have sene Sea Wormwoode in Northumberland by holye Islande;" and in a later one, "In oure tyme it is plenteouslye founde in England about Lynne and holly Ilond." It is now only to be found there sparingly on St. Cuthbert's isle; but it grows abundantly in salt marshy spots between Goswick and Beal. B. In the clefts of a greywacke rock near St. Helen's chapel, sparingly. J. Hardy.

308. TANACETUM VULGARE. Light. Fl. Scot. 465.—Tansy.—Haughs of rivers and burns, hedge-banks, and waste grounds. "We observ'd plenty of it about Wark and Ford-Castle, not far from Kelso, on the borders of Scotland," Lightfoot.—The leaves are placed in beds to drive fleas from them. Mugwort is used for the same purpose. Tansy-cakes, now unknown, were formerly played for during the Easter holidays. Strutt. Sport. and Past. p. 94.

309. GNAPHALIUM GERMANICUM = Filago germanica. See Phytologist, 1848, p. 314.—Chafeweed.—Dry fields and pastures, common. As Ray has remarked, this weed loves to grow on broommie knowes. July, Aug.

310. G. MINIMUM = F. minima. Sandy heaths, barren ploughed grounds, and earth-capped dikes, common. July, Aug.

311. G. ULIGINOSUM. Wet sandy places, particularly where water has stood souring during winter, common. It prefers spots from which the turf has been pared off to cap stone-dikes, &c. Aug.

312. G. RECTUM. On muirs, and in thickets and pastures on a sandy soil, frequent. It is common, and of good size about the base of the Eildon hills; and abounds to excess on Gaitheugh, a steep ravine opposite Old Melrose. There it has many companion weeds that infest poor soils;—Myosotis versicolor et arvensis, Rumex acetosella, Prunella vulgaris, Sherardia arvensis, Bartsiæ, and Echium vulgare of small size. The locality commands a most lovely prospect; and is further interesting as having been, when a school-boy, the favourite haunt of the late well-known minister of Wells-Street Chapel, London,—the Rev. Dr. Alex. Waugh. He was a native of Berwickshire, born at East Gordon on the 16th of August, 1754. The boy was wont to steal away early and oft to Gaitheugh, "for ages noted as the best cover for foxes in all the country. When asked, on his return at breakfast-time, where he had been, his answer generally was, 'I have been seeing foxy, and hearing the linnets.' His taste for the beauties of nature was born with him, and constituted a leading feature of his mind. It was at Gaitheugh that, one morning, he fell from a tree, when climbing for a gled's nest, and lay for some time insensible, no one being with him." Memoir, 3rd edit. p. 24.

313. G. DIOICUM = Antennaria dioica. Moor-Everlasting. Grows in patches, and scattered, on every muir in our district,—a pretty and interesting plant. June, July.

314. SENECIO VULGARIS. Groundsel: Grundy-Swallow.—Wastes and gardens, everywhere. Summer and autumn. Gathered for cage birds.

315. S. VISCOSUS. On waste grounds near onsteads, on naked spots in woods, and on banks in deans, not uncommon, and scattered over the district. July–Oct.

316. S. SYLVATICUS. Sandy soils. Common in fir plantations, on whin banks, and rubbish cast out from quarries. July. In many places on moors, when whins are dug up or burnt, this plant springs up in very great profusion, where formerly not a specimen was to be seen. It also appears in woods when trees are cut down, or brushwood

---

27. Doronicum pardalianches. In Gerarde's Herbal we are told that this rare plant "hath been found and gathered in the cold mountains of Northumberland, by Dr. Penny, lately of London, deceased, a man of much experience and knowledge in simples." On the same authority undoubtedly, Thomas Johnson says that this Doronicum grows "on the high mountaines of Northumberland." Merc. Bot. pars alt. p. 19.—This is good authority for the indigenous claim of the plant; but it is now not to be found on these hills. It occurs in grounds attached to houses, but whether scions from the native race is disputable.—B. Professor Balfour finds it on Bemersyde near Melrose, Phytologist, 1852, p. 671, but he does not say whether with appearances of wildness or not.

is cleared away. Pursh records a similar fact concerning a North American species, S. hieracifolius. See "British America" in Edin. Cab. Library. J. Hardy.

317. S. TENUIFOLIUS = S. erucifolius. Edin. New Phil. Journ. Oct. 1827, p. 194.—Rare. B. Sides of the road halfway between Swinton and Swinton-mill, Rev. A. Baird. Road-side south of Orange-lane; and near Sunnyside and Grizzle-rig in the parish of Eccles, Dr. R. D. Thomson. In the lane between Edrington and Cocklaw; and on the Raven-knowes, Dr. R. Dunlop. July.

Mr. Baird brought specimens from the first-named locality the day after he had picked them, and I well remember the pleasure he felt when we ascertained that the plant was new to the Scottish Flora. In those young days of ours such a discovery was a thing to boast of; and the student will never be a botanist who would lightlie it. Long years have passed away; but it is not long since, when riding along the broad lane, I saw the plant enduring there as fresh and vigorous as at first,—and so it will continue for generations to follow. Mark the contrast! The preacher who loved to point the tale of human transitoriness with the flower's short and evanescent life—and yet truly so everduring,—has himself gone down to the grave: nor to come back again,—for it, unconscious, giveth no answer to the influence nor of the rain of spring, nor of summer's heat.

The Rev. Andrew Baird was the second son of the Rev. James Baird of Swinton in Berwickshire. He was born at Eccles in the same county, and received his preliminary education at the Grammar-school in Kelso. On the death of his father, the family became settled in Edinburgh, where Mr. B. pursued and completed the course of study prescribed for those who enter into the Church of Scotland. While at the University, Mr. B. paid much more than the usual attention of students to Natural History, and was amongst the most distinguished of Professor Jameson's pupils. He was one of the founders of the "Plinian Society," which had considerable influence in making Natural History more popular with the students than it had previously been. He was also one of the original members of the Berwickshire Naturalists' Club, and took an active part in its proceedings, until his mind and time became almost entirely occupied with the duties of the parish of Cockburnspath, of which he was the minister; and with the discussions that led to the severance of a large proportion of its clergymen from the Establishment. He was amongst those who deemed it to be their duty to secede; and, joining the "Free Church," he laboured zealously amongst the flock that followed him, and loved him, until his too early death. He died at Oldhamstocks, on the morning of Sabbath, June 22, 1845. His health, which for several months had been in a declining state, seriously gave way about three weeks before his death, which came, however, rather suddenly and unexpected.

Mr. Baird was a man of retiring and unobtrusive habits, fond of society, and yet rather forming a part of the company than amalgamating with it. He took great delight in natural scenery, and was hence familiar with every grand and picturesque object and view in

his parish and native county; and he drew, with admirable skill, the scenes he loved so well. He was an able and eloquent preacher. Professional avocations checked the progress he had early made in Natural History, but he advocated and loved the science to the end; and his latest effort was the delivery of some Lectures on its advantages as a study, in the Mechanics' Institute at Dunbar. He contributed much to the geology and botany of our district; but he was more an acute and accurate observer than an author, and published nothing with his name excepting the history of the parish of Cockburnspath, in the new Statistical Account of Scotland.

A monument to his memory has been erected in the churchyard of Cockburnspath by his congregation; and upon the central column the following inscriptions are engraved:—

"To the memory of the Rev. Andrew Baird. Born 16th November, 1800. Ordained 28th April, 1831, assistant and successor to the Rev. Andrew Spence in the parish of Cockburnspath. Died at Old Hamstocks, 22nd June, 1845, Minister of the Free Church of Cockburnspath and Old Hamstocks."

"Mr. Baird was a man of the most amiable disposition, of a refined taste, and of no ordinary scientific acquirements; faithful to his Divine Master, beloved by his flock, stedfast in his adherence to the principles of the Free Church of Scotland amidst many peculiar hardships, which he bore with meekness and unshaken constancy, until his death."

318. S. JACOBÆA. Ragwort: Yellow-weed: Yellow Ell-shinders, and in the Merse, Fizz-gigs.—A common weed in old pastures and by road-sides. July, Aug.—Some individuals have all the rays of the flowers involute, or with their margins rolled inwards, giving a peculiar aspect to the plant; and others have no ligulate florets. Both these varieties I have found in our Maudlin fields. There is another variety with the leaves much more cut and divided than usual, so that they obtain something of the appearance of the curly-leaved parsley. This is not rare.

319. S. AQUATICUS. Boggy ground in old pastures, more especially at the sides of ponds on muirs. July, August.

320. CARLINA VULGARIS. Uncommon, and confined apparently to the neighbourhood of the sea. B. Banks below Lamberton Shiels; and thence northwards to beyond Burnmouth. Near Ernesheugh camp, A. A. Carr.—D. Holy Island, Dr. Neill. Links at Bamburgh Castle, Dr. F. Douglas. June, July.—"Sicca persistit, postquam periit matura, etiam toto altero anno, triste spectaculum."—Linnæus.

321. CENTAUREA NIGRA. Hard-Heads: Tassels: Horse's-Knops.—Very common in old pastures, on grassy banks, and by road-sides. The variety in which all the florets are radiant and larger than usual (Raii Syn. 199), and which is really a not unhandsome plant, was found frequently, in this immediate neighbourhood, in the summer of 1850. July, Aug.—The style is clothed with short

soft spines, which, in an elongated and enlarged form, make a collar round its base.

322. C. SCABIOSA. Very rare. R. Gathered at Sprouston, almost on the confines of Berwickshire, by the Rev. John Baird. July, Aug.

323. C. CYANUS. **Bluebottles: Blaber** or **Blawort.** Turner calls it the **Blewblaw.**—Corn-fields, now rare, and only occasionally seen in fields amidst our hilly border. It appeared, in several spots, abundantly on the cutting of the rail-roads, intermingled with the Poppy. It was, in former times, an abundant and beautiful weed; so well known as to have become an object of familiar comparison.

"Of colour like a **Blawart** blue."—A. RAMSAY.

"May ne'er the canker o' the drink
Mak our bald spirits thrawart,
'Case we get wherewitha' to wink,
Wi' een as blue's a **blawart,**
Wi' straiks thir days!"
R. FERGUSON. "Leith Races."

The Bluebottle has been introduced into the garden, where it runs into numerous variegations. July, Aug.

324. ARCTIUM LAPPA. **Burdocken.**—Waste grounds.

325. A. BARDANNA = A. minus. **Burdocken: The Burr.**—"It groweth comonly about townes and villages, about diches and hyghewayes and doung hylles and such vile places." Autumn.—The observations of Doody and Ray tend to confirm the opinion of those botanists who maintain the distinctness of our Burdocks. See Syn. 1696, p. 88. I am at a loss, however, sometimes to refer a specimen to its species; but I insert both in our catalogue, having had the advantage of having their characters pointed out by Mr. Babington on our wayside plants. The latter is by much the commonest.—"In the eastern parts of Berwickshire, the 'ripening,' by which is meant the flowering of the 'burr,' is associated with Cockburnspath or Lammas Fair. To the mirth of this gingerbread festival, it appears, in former times, to have very much contributed, bundles of burrs being introduced just as the olden people began to show themselves. Until the constable allayed the riot, there was no remedy but to fly, or to resume the defensive. The Burr was not the only provoking thing, for when removed, it left a sediment of white hairs, which gave, to well brushed and holiday attire, the appearance of having been wrapt in a woollen blanket!—Children are wont to dissect the flowering burrs, removing all the hooks and flowers, till the clustered pappus alone adheres to the receptacle. These they term brushes."—J. Hardy.

17. *Onopordum acanthium.* **Scotch Thrissel.**—In gardens and shrubberies; where it maintains itself unsown.

326. Carduus nutans. In pastures only. B. In fields about Edrom; and at Mayfield; and in a field above Blackburnrigg wood, plentiful.—N. In fields about Doddington; and in fields near Newlands beyond Belford.—R. On Bowmont water.—Begins to flower towards the end of June, with the major part of our Thristles, and continues flowering throughout autumn. "Flos cernuus, noctu suaveolens; entymologis notissimus ob Phalænas flores noctu copiose depascentes." Linnæus.—Mr. Hardy has remarked that the musky smell peculiar to the species appears to reside most powerfully on the under surface of the leaves.

327. C. acanthoides. In hedges and on dry waste grounds not uncommon, and not unornamental. Our plant is the variety β. crispus; but the real C. crispus would appear not to have been found in Britain. Ann. and Mag. N. Hist. Ser. 2. ix. p. 341. July–Sept.

328. C. tenuiflorus. Waste places and road-sides, common. July.

329. C. marianus = Silybum marianum.—On waste grounds where old buildings have gone to ruin, scattered over the district. B. Bankhill and other parts of the ramparts; and on the bank of the Old Castle fronting the river, sparingly. About Newwaterhaugh; Milne-Graden; and Millknowe in the Lammermuirs.—D. Holy-Island opposite St. Cuthberts, Thompson. "I saw beautiful specimens in the churchyard of Holy-Island in 1844," R. Embleton. —I have noticed that whenever a piece of new ground is taken and trenched for a garden, specimens of this Thistle make their appearance. The Rev. Thos. S. Goldie, in his account of the parish of Coldstream, says of Thistles in general:—"It may be observed as a curious fact, that whenever the soil is turned up beyond a depth of three or four feet, immense quantities of thistles immediately spring up, and flourish in wild luxuriance." Stat. Acc. Berwicks. p. 205.

330. Cnicus lanceolatus. Burr-Thristle. Way-sides, frequent. July, Aug. Children are accustomed to tear off the involucrum, and spread out the flower into the shape of a Sun-flower. This is sometimes fixed to the bonnet by way of cockade. The receptacle is often eaten. The seeds are a favourite food of the Goldfinch. Small flocks of this bird are occasionally seen in the fields during the winter season, gathered around a clump of withered thistles. J. Hardy.

331. Cn. palustris. Bog-Thrissel. Boggy grounds, common. It has often white flowers. July, Aug.

332. Cn. arvensis. Cultivated fields and way-sides, much too common on many light soils. July.

333. Cn. heterophyllus. Rare.—B. In the plantation by the side of the post-road to the east of Houndwood house, G. Henderson. In marshy spots on the top of the sea banks between Redheugh and Dulaw, J. Hardy. Banks of the Whiteadder above Claribad mill, Dr. R. Dunlop. Langton-Lees' cleugh, Rev. T. Brown. In abun-

dance in the Crawboot-loch whins on the Hirsel estate near Ayton-hall, Miss E. Bell and A. Hunter.—N. At the foot of Cheviot, N. Winch. Heathpool Bell, Dr. F. Douglas.—Aug.—The leaves of this fine species exhale a strong musky smell. J. Hardy.

The species of Carduus and Cnicus are called Thristles by our peasantry, who know well that one differeth from another, but it has seemed to them superfluous to give distinctive names to a tribe that lie under one ban. In the progress of agriculture, their numbers have been greatly reduced, so that now we can scarcely form an idea of their former abundance. They were, a century since and backwards, used commonly as fodder for cattle; and, to this day, Thistles —were there any—would be exempt from paying custom at St. Boswell's fair. The vicar of Norham once found it worth his while to take tithe of his parishioners' thistles. There is a "Thistley-hill" in Holy-Island; and I can remember when every farm had its thistley braes or knowes. To reap these, when cropped with corn, it was necessary to guard the left hand of the shearers with a leather glove. In 1344–5 there is this entry amongst the expenses of the Priory of Holy-Island:—"Gloves for 14 servants, when they gathered the tythe corn, 2*s.* 8*d.*" Raine's N. Durham, p. 87.—The manufacture of these gloves continued down to within these few years; but it is now trivial or gone into disuse.

334. Lapsana communis. Waste grounds and corn-fields, an annual and nameless weed of no account. July, Aug.

335. Hypochœris radicata. Pastures and waste grounds. July.

336. Apargia hispida = Leontodon hispidum. Meadows and pastures, common. July.

337. A. autumnalis = Oporina autumnalis. Meadows and pastures, very common. On our links and elevated muirs there very often occurs a small variety with a stalk bearing from one to three flowers. This is the "Small jagged Hawkbit" of Petiver's Eng. Pl. tab. 12. fig. 3.

338. Tragopogon minor. Bab. Man. 187. = Tr. major, Berw. Fl. ii. 286. = Tr. pratensis *β*, Arnott Brit. Fl. 201.—Sides of roads and of corn-fields, distributed over the district. It grows in more abundance than elsewhere in the plantation that borders the avenue to the mansion house of Low-linn. June, July.—"The credit," says Mr. Babington, "of determining this plant belongs to Mr. Leighton." Manual, edit. 1st, p. 177. To render it just, this assertion must be received in a very limited sense. Mr. Woodward was, perhaps, the first native botanist to call particular attention to the species or variety. He had remarked that, in specimens gathered in Huntingdonshire, the calyx is always exactly equal with the blossom, while, in Norfolk, the calyx invariably exceeded it; and, as the stems

---

28. Cichorium intybus. Wild Succory. In the course of every season a few straggling specimens are found, in our district, in corn-fields; but the plant has no certain habitat.

of the latter were also much shorter, he was led to ask if these plants are not distinct species? About the same period, Mr. Stackhouse pointed out that the calyx in Cornish specimens was always much longer than the blossom. Withering, Bot. Arrang. iii. p. 672, edit. 1796.—These observations received less notice than they were entitled to, and the varieties went almost unmarked*, when, in 1829, I mentioned that our Berwickshire Goat's-beard presented the same peculiarity as the Norfolk and Cornish one. Fl. Berw. i. p. 172. The character appearing to my friend Dr. R. D. Thomson to be one of specific value, he, in the following year, took specimens to Sir William J. Hooker, and adjudged the plant to be the Tragopogon major of Jacquin†; and, under this name, it was, in consequence, recorded in the 2nd vol. of the Flora of Berwick. Subsequently, Sir William reduced the reputed species to a variety of Tr. pratensis; and, in 1834, we find Mr. Babington remarking that in the genus Tragopogon, "the proportional lengths of the involucrum and corolla appear to be useless as specific characters." Fl. Bathoniensis, p. 29. The plant, then, had not been "hitherto overlooked," as Mr. Leighton chooses to write in 1841. Flora of Shropshire, p. 384. Mr. Leighton has simply the merit of giving a good description of the plant, and of ascertaining that it is the Tr. minor of Fries. Mr. Watson, Professor Arnott and Dr. Bromfield continue in the opinion that it is merely a variety of Tr. pratensis. Phytologist, 1849, p. 520.

339. Picris echioides = Helminthia echioides.—B. By the Pier-road near where the Lime-kiln was. This, our only station for the plant north of the Tweed, has been so much tampered with and misimproved of late, that I fear the rarity may have been eradicated. Mr. Watson asks, "Is it indigenous near Berwick-on-Tweed?" Cyb. Brit. ii. p. 35. I know not who can answer the question.

340. Lactuca virosa. Berw. Fl. i. 173.—Dry banks. B. and D. Banks of the Tweed from the Chain-Bridge to Norham, and again at Lennel, abundant; and often attaining the height of six or even of eight feet, and not without its own grace on the red naked scaurs where it often loves to grow. See Smith's Pl. of Kent, p. 46.—B. Ayton-road near the 6 mile-stone; and on the shore near Burnmouth. Lane west of Old Ladykirk, Dr. W. Baird.—D. About Norham and Twizel Castles.—R. Near Melrose. Autumn.

341. Leontodon taraxacum = Taraxacum officinale. Dandelion: Dentylion‡: Piss-a-bed,—a name which implies a familiar

* In Eng. Bot. vi. 434, it is said of Tr. pratensis that "the length of the outer florets is very variable."—Of the Devonshire plant, Mr. Banks says that the corollas are "more frequently shorter than of the same length as the involucre,—never longer."

† Stat. Acc. Berwicks. p. 54.

‡ "*Dent de lion* has been corrupted to *dandylion*, from an idea of the bold and flaunting aspect of the flower, whereas its name has reference to the root." J. Waylen in Notes and Queries, vi. p. 29.—We presume Mr. Waylen is here indulging in a little ridicule of etymologists. The

knowledge of its diuretic property. Abundant everywhere, flowering from April to autumn.—Mr. Hardy characterises a Berwickshire variety *maritimum* thus: "Leaves almost entire, sublyrate or oblong-obovate, much expanded towards the apex." Bot. Gazette, i. p. 133. This is very different from two that have attracted our attention, and which are also sea-side residents. The first, remarkable for its superior neatness and prettiness, grows abundantly on Spittal Links. It is smaller in all its parts, and the leaves lie expanded in a stellate or rosulate fashion on the ground. They are very deeply cut, almost to the midrib, into many regular and neat segments, all pointing backwards; the terminal are as usual the largest. The flower-stalk is firm and round, gently tapered upwards, erect, or gracefully bent in a sigmoid flexure. The flowers small, and very neat, with the calyx-segments all erect—the exterior broadly ovate, acute, with purplish margins,—the apices of the floret with 5 equal obtuse serratures. It flowers in May. This variety is very distinct from the Leontodon palustre of Smith, with which, however, it agrees in the erect and appressed position of the outer scales of the involucre; nor can it be referred to any of the varieties distinguished by Koch. It is further to be remarked, that its peculiarities do not depend on the dry sandy nature of its locality, for with it, the ordinary plant grows profusely, nor do they ever intermingle their characters. The second variety grows on rocky soil on the coast at Burnmouth. Like the Spittal plant, the leaves are deeply runcinate and rosette-spread; but the exterior leaflets of the involucre are ovate, acute, and retroverted, while the interior are erect and corniculate at the apex. This may be the variety *β. lævigatum* of Mr. Babington in his Fl. Sarn. p. 57.

342. L. PALUSTRE. Occurs occasionally in boggy ground on all our moors. June.

343. CREPIS VIRENS = C. tectorum, Smith.—Dry pastures, old walls, and road-sides, common. Summer.

344. C. SUCCISÆFOLIA = Hieracium molle, Smith.—B. Langton woods, Rev. Thos. Brown. By the banks of Ernescleugh water near Egrop or Edgarhope wood in Lauderdale. Blackburn-rigg dean, on the north bank, sparingly, J. Hardy.—D. In a dean near Kyloe.—N. In the Cheviots on the banks of the Common Burn, G. R. Tate. —Aug., Sept.

345. C. PALUDOSA = Hieracium paludosum, Smith.—Marshy places, especially in woods, frequent. It is now extirpated from the Castle-hills, where, until within these few years, it grew profusely, a few feet only above the sea level. In Dunsdale it ascends the Cheviot to a height of about 2000 feet. July, Aug.

---

name, we have hitherto believed, was derived from the resemblance of the jagged edges of the leaf to the rows of teeth that garnish the jaws of the heraldic lion, or of the "Red Lions" that announce the head inn of the provincial town. The Red Lions of naturalists are not of the same species.

346. Sonchus oleraceus. Sow-Thistle: Swine-Thrissle: Swinies.—Waste grounds, common. Summer. The plant is extremely variable, and one is often tempted to believe that the prickly-leaved kinds must be specifically distinct from the dark, smooth one, but no distinctive characters have been discovered. "A peculiarly marked variety occurs in the vicinity of the sea along the coast of Berwickshire. It is characterized by having the flower-stalks very downy when young; involucre usually bearing a number of glands; leaves lyrato-pinnatifid, the terminal lobe angled and largest, generally destitute of spines; of a glaucous green colour; in texture thin and flexible; achenia minutely wrinkled. On rocks near Redheugh this variety is almost stemless, and the leaves spread around the root in the manner of a star. This plant is the var. β. of Smith." J. Hardy. See Ann. and Mag. N. Hist. Ser. 2. iii. p. 424.—It is the var. 7 of Dr. Withering (Bot. Arrang. iii. p. 676), who has described it at length.

347. S. asper. With the preceding, and equally common. On St. Abb's-head and other places by the sea, we have gathered a variety without a stem,—the leaves spreading in a circle on the ground, and the flowers forming an almost sessile panicle.

348. S. arvensis. Corn-fields, generally indicative of a cold, undrained soil. It is apt to abound amongst beans. A large showy weed without beauty. Autumn.

349. Hieracium pilosella. Dry banks and muirish pastures, frequent. A pretty plant, and, for its class, flowering early. May–July.

18. *H. aurantiacum.* The Coalier. Is naturalized in the plantation which overhangs the garden at Newwaterhaugh; and in the woods of the Hirsel. It is now uncommon, even in cottage gardens. July.

* Leaves collected at the base of the stem.

350. H. murorum. Plate II. figs. 1–3.—"Stem corymbose, with a solitary leaf: leaves ovate-heartshaped, wavy, with radiating teeth chiefly at the base." Smith.—The leaves are radical, and often collected into a rosette, on long hairy stalks, naked on the upper, but roughish with scattered stiff hairs on the under surface, and ciliated on the margin and midrib. The stem is slightly hairy, round, either leafless or with a single small leaf near the middle, dividing above in a divaricate and forked manner into from 3 to 8 branchlets, each bearing its large yellow flower. These flower-stalks are blackish, with coarse setæ projecting through a cottony down. The scales of the involucre are unequal, dark green, rough, with coarse setæ, and cottony down; the interior paler on the margins, elongated, and often

29. Tragopogon porrifolius. Mr. G. R. Tate found a single specimen at the Beal Station of the Newcastle and Berwick Railway in 1851. It was a luxuriant plant and seeded profusely; but no successors appeared in 1852.

twisted towards the points, which are revolute in the buds. The ligules of the flowers are smooth and quinquefid, and the revolute styles dark brown. The fruit varies in colour from yellowish to dark chestnut-brown, according to its stage of maturity, is smooth, deeply grooved longitudinally, entire at the apex, and crowned with a copious rough pale yellowish pappus.

We have three varieties of H. murorum. Var. α. Plate II. fig. 1. = Pulmonaria gallica, sive aurea latifolia—Ger. Em. 304,—a characteristic figure. The leaves somewhat resemble the small leaves of the Coltsfoot, and are deeply empurpled on the under surface, while the upper surface is "of an elegant opake, rather glaucous green." They are ovate-acute or ovate-lanceolate, cordate at the base, and cut into small segments there which look backwards, the margin otherwise being obsoletely sinuated, having the slight projections tipt with a blunt gangrened mucro. It is a graceful plant, often met with on the steep scaurs of the Tweed and Whiteadder, especially where shaded from the sun. I have seen it plentiful on the banks below Norham Castle; on the south bank of the Whiteadder in Tibby Fowler's glen; and on the sea banks at Burnmouth, &c. —Our var. β. Plate II. fig. 2. (=Broad dented Hawklung, Petiv. Eng. Pl. tab. xiii. fig. 3) grows in abundance in Dunsdale on Cheviot, and it may be the H. plumbeum described by Mr. Baker in the Phytologist for 1852, p. 453. In this variety, which is a larger plant than var. α, the leaves are more elongated and more numerous, ovate-lanceolate, incised at the base, and narrowed there, so as to run insensibly into the stalk, and the mucronated angles are either patent or pointed forwards. The plant has much of the succulent character of the Crepis paludosa.—Our third variety γ. (Plate II. fig. 3.) is a smaller and less attractive plant than either of the preceding, and is at once distinguished by having its leaves marked with irregular black blotches, as those of H. maculatum are described to be. I have seen it only on the rocky face of the hill above Yetholm manse, where it grows in considerable quantity. The root is woody and scaled with the remains of old leaves. The leaves, often numerous, are ovate or elliptical, so obsoletely waved on the margin as to be properly described as almost entire; but there are distant mucro-like denticles above, and at the base one or two small teeth with a backward direction. The stem is leafless, often oblique, and with from two to five flowers.

351. H. SYLVATICUM. Plate II. fig. 4. "Leaves ovate-lanceolate, toothed chiefly about the base; teeth pointing forward."—Leaves few, elliptic-lanceolate, narrowed below, and running insensibly into the stalk, which is about half the length of the leaf; the margin cut or toothed at the base, the segments pointing forward, tipt with a blunt mucro; and this mucro alone remains towards the apex: upper surface sparingly hispid, more or less blistered, and the inferior is frequently empurpled. Stem firm, erect, with usually two small sessile leaves, divided above in a forked manner, and having from five to twelve flowers. There is a small bract at the base of every flower-stalk, which is clothed with down and spreading black hairs. Scales

of the involucre unequal, dark green, with paler margins, downy, and rough, with dark eglandular setæ. Ligules smooth. Styles fuscous. Fruit dark chestnut-brown, sulcated longitudinally, smooth, entire at the top, and crowned with a sessile pappus.—This is a common and not unornamental species on the walls of ruins, *e. g.* on Berwick Castle, where it overhangs the river; on old earth-capped dikes; on crags and in the chinks of high rocks; on rocky braes slightly covered with a crumbling soil; and sometimes in shallow, gravelly fields. The foliage is dry and green, and the plant dries neatly for the herbarium. It is the H. murorum of Lightfoot, and of botanists of his period; and Lightfoot, who is surely a favourite author with every student, considers it and the preceding to be merely varieties of one species. Fl. Scot. 437. The more extensive our researches become, albeit they may not extend beyond our district limits, the more satisfied we are of the correctness of this view. We have specimens which, like the distanced horse, can be "placed nowhere."

** Stems without radical leaves.

Calyx setose	H. sabaudum.
— hairy	H. strictum.
— glandular	H. prenanthoides.
— smooth	H. umbellatum.

352. H. SABAUDUM, Eng. Bot. v. 349.=H. boreale. Plate III. fig. 1.—Stem erect, copiously leafy, many-flowered, woody, solid, hairy towards the root, rough and furrowed, the ridge yellowish, while the even interspace is green, branched and panicled above. Leaves alternate, sessile, and partly clasping the stem, lanceolate, toothed with mucronate denticles, dark green, and naked above, glaucous underneath, and rough with scattered stiff hairs from a hardened basis, which gives a speckled appearance to that surface. The leaves become gradually smaller, and on the upper parts are more clasping and ovate-lanceolate. Flowers numerous (30 and upwards), comparatively small, on hispid and downy bracteated stalks. Scales of the involucre dark green, erect, the exterior hispid, the inner lanceolate, with pale margins. Fruit chestnut-brown, sulcated, roughish, and crowned with a cream-coloured pappus.—The description of Sir James E. Smith is closely applicable to our specimens, and nothing can be more elegantly done. A neglect of his writings, and a prevalent tendency to depreciate them, has led to a barbarous and technical mannerism in the descriptions of some late authors, which it is often difficult to follow out or understand. It is pleasant to study Sir James's great work; and with it I have interpreted the present species, which is a coarse, shrubby herb, from 2 to 3 feet in height. It grew, some years ago, in great abundance in the woods of the Pease Dean and Penmanshiel; but, during two recent explorations, I was not able to find a single plant. I cannot believe, however, that it has been extirpated. I have also gathered it on the banks of the Whiteadder above Edrington mill, and near Claribad. D. In a wood near

Kyloe Cottage.—And the same species I have picked on Colvend rocks in Galloway, where it is common; and I have it also from Yorkshire.

353. H. STRICTUM. Bab. Man. 198.=Narrow hairy Hawklung, Petiv. Eng. Pl. xiii. fig. 10. Plate III. fig. 2.—Stem erect, virgate, hairy at least near the root, roughish, round, furrowed, copiously leafy. Leaves alternate, sessile, elliptic-lanceolate, toothed about the middle, the margin fringed with rigid hairs, and both surfaces are roughened with similar hairs, which are longer and softer on the midrib. The hairs have a hard bulbous base. The leaves become gradually smaller, and on the upper part of the stem are lanceolate and somewhat clasping. Flowers large, from 5 to 8 in number, on downy bracteated stalks thickened at the top. Scales of the involucre dark green, the inner lanceolate with rather pale margins, somewhat downy and hairy, but without setæ.—This differs from H. sabaudum in habit, and also in colour, which is rather a light green. It is a more gracile and neater plant, and much less branched above, so that the flowers do not exceed eight or ten, and are not often above five. The fruit is roughened with minute spinules. I have seen the plant in the stony bed of Monnienut-burn at Godscroft, where it seemed to me very ornamental. It grows also in boggy ground, such as occurs on the sides of lochs. In such a habitat it is found near the Lees, and at Preston and Linton loughs; but in these habitats the plant has lost its gracefulness, and the entire stem is covered with a soft hairiness. July, Aug.

354. H. PRENANTHOIDES. Plate IV. fig. 1.—This resembles H. sabaudum in size and habit more than any other of our species, but it is less shrubby, less branched above, with larger leaves, and herbage of a lighter and pleasanter green. The stem is copiously leafy, round, furrowed, hairy and roughish, and, above where it begins to branch, furnished with copious sharp hairs, rising from an enlarged black base; and on the downy flower-stalks these are intermingled with numerous glandular setæ. Leaves alternate, ovate-oblong, the lowermost nearly 6 inches long and $1\frac{1}{2}$ broad, somewhat toothed with mucro-like denticles, "clasping the stem with their dilated rounded base," hispid on both surfaces, and speckled with the little dark roots of the pale sharp hairs: the small upper leaves are more toothed and heartshaped below. Flowers "corymbosely panicled," numerous (from 12 to 20); and the scales of the involucre are unequal, very dark green, and rough, with rigid hairs and an abundance of glandular setæ.—B. In Redpath dean near Earlston.—N. Cheviot, on the banks of the Common burn, G. R. Tate. Aug.

355. H. UMBELLATUM. Plate IV. fig. 2. Watson's Cyb. Brit. iii. 454.—The description of this species by Smith answers to our plant very closely, nor can it be improved. It is an unattractive plant, distinguished, in its genus, by its copiously leafy stem, and its narrow linear or linear-lanceolate leaves. These are naked above, but the inferior surface and margins are roughish, with very short spinulose hairs. The flowers are only umbellate when the stalk has been

injured by an insect-gall (Berw. Fl. i. p. 176); for normally they are corymbose. They are from 4 to 10 in number, on rough downy stalks. Scales of the involucre very unequal, dark green, with scarcely paler margins, and without setæ or glands.—This is not common, but it occurs scattered over the district. B. I have seen it on the sides of pathways leading through fields in the How-of-the-Merse; and I have many specimens from about Langton.—D. Haiden Dean.—N. Cheviot, on the Common burn, G. R. Tate; and in the Henhole, Dr. F. Douglas. Aug., Sept.

There are, exclusive of some doubtful species, 131 syngenesious plants in the British Flora, and 127 of them are considered to be truly indigenous. Of this number, 72 grow wild in our district; but two appear to have been naturalized, and two are met with as stragglers only, being introduced, from time to time, with agricultural seeds. They are all herbaceous, dying down to the root every year; but of some coarse species—"rude Burs and Thistles"—the stalks remain, withered and dead, until the ensuing spring, of no use excepting to remind us of the unseemliness and undesirableness of an age prolonged beyond the death of the mind and its faculties. They are very generally distributed, from the salt-marsh of the sea-shore, and the links that gird it, to near the summit of our highest hills, although these do not rise high enough to afford us any alpine species: and they possess themselves of every kind of soil and site, a considerable proportion choosing in preference waste grounds and road-sides, as if they were conscious of the vulgarity of their habit and aspect. Thus while one species only (Antennaria dioica) is found exclusively on our open and breezy hills, 9 in our deans and amidst woods and copses, 9 in our meadows, grassy muirs and pastures, 9 in our marshes and by our rivers and burns, 8 in our fields as weeds, not fewer than 32 occupy the way-side, the hedge-bottom, the wastes that lie apart everywhere, and the rubbish-places in villages and onsteads. And while the Aster cannot grow but in its saline marsh, the maritime Pyrethrum only on rocks bedewed with sea-spray, and most have only a little wider range, a few, such as the Dandelion and the Daisy, may be said to be almost ubiquitary. From this their general distribution, and their numbers, we might naturally infer that the share they contribute to the clothing of the earth's surface must be very considerable; and although such is the case, yet it is less so than may be imagined, for only a few of the species are, properly speaking, gregarious, and the herbage of most does not spread nor stool upon the ground. Yet certes our green fields would lose half of their charms were the Daisy to desert them,—our pastures and muirs half of their liveliness without the Horse-gowans, the Hawkbits, and similar flowers;—our road-sides and lanes are gay when bordered with the golden rosettes of the Dandelion,—our deans with the Golden-rod and the Hieracia;—nor do I much dislike the forest of large leaves that the Butter-bur annually plants by our river-sides;—nor must I pass unnoted the varied race of them, from the tall Thistle to the groundling Apargiæ, which, in autumn, meets the pleased eye everywhere,—not least so as it follows the frolicksome and uncertain play

of the thistle down with the gentle winds*. Very true,—these are miniature traits, but they are as essential to the composition of the landscape as are to the completion of human happiness the many little emotions and impressions, the numerous trivial incidents which separately pass away almost unfelt and unperceived.

It adds to their influence on the landscape, that the Syngenesia flower throughout the year. The Coltsfoot comes before the Swallow dares, and takes the winds of March with beauty; and the Dandelion and Daisy push forth, at the same time, some pioneers to prepare us for the large hosts of them that shall appear in matured spring. In April, the Butter-bur shoots up her empurpled pyramidal clusters to meet the just awakened humble-bees which then crowd about them, uttering their active pleasure in a not unpleasing hum, as they flit from flower to flower. The jocund May dresses herself in a garment pied with daisies, and buttercups, and dandelions; and before these have begun to grow thin and pale, the Hieracium pilosella has blossomed on every sunny bank, ushering in a numerous race of Horse-gowans, Ox-eyes, Rag-weeds, Hawkbits and Hawk-weeds,—all plants of middle summer,—but some of which continue to extend their flowery life through the autumn, where they meet and mix agreeably with Hieracia, the thistle-tribe and knapweeds. And these have a long struggle with the advancing winter. Then the hoar-frost lies long on the large rosette of green leaves of our biennial thistles; and then the benumbed humble-bee lays herself on the purple couch of their late flowers, where I would not wittingly disturb the rest that shall soon glide into a gentle death; but, if perchance disturbed, 'tis curious to observe how piteously the insect, with outstretched and stiffened limbs, and a most drowsy hum, pleads her prayer,—"Leave me, leave me to repose†." But the troop of flowers are gone, and

* "And, in our vacant mood,
Not seldom did we stop to watch some tuft
Of dandelion seed or thistle's beard,
That skimmed the surface of the dead calm lake,
Suddenly halting now—a lifeless stand!
And starting off again with freak as sudden;
In all its sportive wanderings, all the while,
Making report of an invisible breeze
That was its wings, its chariot, and its horse,
Its playmate, rather say, its moving soul."—WORDSWORTH.

† A friend on perusing the MS.—'tis some years agone—made wicked fun with this sentence, but I have since found a very similar one in a good and pleasant author:—"The Humble-bee, torpid on the disc of the purple thistle, just lifts a limb to pray forbearance of injury, to ask for peace, and bids us 'Leave him, leave him to repose.'" Journal of a Naturalist.—In the "Letters of Rusticus" we have this passage:—"The Humble-bees on a sunflower are also very odd-mannered; they get as drunk as Bacchus or Silenus; then they get sleepy as Morpheus, and cross as Cerberus; if you touch one he leans on one side, cocking up the opposite legs into the air, and plays divers other antics, till, with his various trials to show that he is *compos mentis*, and able to fight and defend himself, he sidles, staggers, rolls, and falls to the ground, and there lies on his back till he has slept

yet the Golden-rod and some Thistles, the Horse-gowan and Feverfew, the Daisy and Rag-weeds linger in sheltered spots,—on sunny braes and in deans,—and some will tarry there until Christmas has told her tale. The Sow-thistle, and the Groundsel in especial, are so indifferent to summer's heat or winter's cold, that our children have registered the fact in a doggrel rhyme :—

"Through storm and wind,
Sunshine and shower,
Still will you find
Groundsel in flower."

In reference to the form of their flowers, the Syngenesia may be divided into four classes,—the semi-flosculous, represented by the Dandelion, and of these we have one blue, and twenty-two yellow species; the radiant, of which we have eight species, that, like the Daisy, have a white frill and a yellow disk, but seven others are entirely yellow, and one has a blue circumference; the capitate or Thistle-tribe, all of which have purplish flowers, tending sometimes to red, and sometimes varying in white; and the discoid, in which class there are twelve yellow species, three white, and two purplish or red. Yellow and purple are therefore the predominant colours of the order, but, from their abundance and showiness, some of the white kinds show most in the landscape. The semi-flosculous and radiant classes are all of them noted followers of the sun: awaiting his rise with closed or nutant heads, they expand them under his warm influence, glory in his meridian glare, and, pursuing his course, they again close up their heads, or bow them when he begins to sink in the west. So familiar are the phenomena, that we are wearied with the comparisons and similes they have originated;—it is now a lover's constancy, representing, in sweet verse, his alternate joy and sorrow,—it is an emblem of christian love, and then of divine favour or displeasure.—The time of the opening and closing of the flowers is so various, that it has been attempted to construct a watch for Flora from the observation of various species. Thus, in our district, the Goat's-beard opens, as in Sweden, at 3 A.M., and closes between 9 and 10 A.M. or earlier; the Dandelion opens about 7 in the morning, and does not close until 5, or a little later; it is after 8 o'clock before the Daisy awakes, and it has faulded up its e'e at 4 in April, and towards the middle of May, 5 appears to be its hour of rest. I have not noted the hours with any accuracy in our remaining species, and it must be remembered that the plants are regulated in some degree by the position they occupy in relation to the setting sun; nor is the phenomenon exhibited at all when the day is wet, nor after the discharge of the pollen from the anthers.

himself sober." p. 125.—And Sir Humphry Davy writes, in conclusion of a pleasant page,—"But see, there are two or three Humble-bees which seem languid with the cold, and yet they have their tongues still in the fountain of honey; I believe one of them is actually dead, yet his mouth is still attached to the flower. He has fallen asleep, and probably died whilst making his last meal of ambrosia." Salmonia, p. 219.

It is possible that this alternate expansion and contraction of the flowers, and their continued contraction in hazy or wet weather, may be dependent on some structure of the receptacle or calycine leaflets that gives them a hygrometric property, but the explanation is irreconcileable with some similar, and not less remarkable, phenomena. If the flower-stalk of the Dandelion is split longitudinally for two or three inches with a knife, the halves recede quickly from each other to a distance far beyond what any elasticity in the parts could produce; and, in a minute's space or so, each half, or often only one of them, will have coiled itself up in one or two circling involutions. This fact has been long familiar to our country lasses, who are wont to tear the fistular stalks into shreds, that instantly twist themselves into a series of whorls as close as the hair does under the curling-tongs; and then, untwining them a little with their fingers into graceful ringlets, they dress the head with them in ambitious imitation of maiden aunts. Wherefore, too, should the head of Apargia hispida be cernuous in bud, erect in flower and in maturation of seed, while the Goatsbeard and all the Hieracia are erect throughout the process of florescence and semination? In the bud, the flowers of the Coltsfoot are pendulous, erect when expanded and in vigour, when fading they contract and close, and again hang the head as if they seemed to grieve for their departed beauty; but before long, the seeds being matured and ready for dispersion, they rise once more erect, that the breeze may waft the seeds with certainty to a soil fitted for their germination in a future spring. The flower of the Dandelion, on the contrary, is erect from its first appearance to its entire decay; but after the seeds have been fertilized, the calyx closes around them, and so continues until they have ripened, when the scales become very completely retroverted, so as fully to expose the feathered globe. The stalks of this down contract closely together in moist and wet weather,—a beautiful provision to secure its dispersion only in a dry day, when it is driven off by every zephyr, and not unoften by the schoolboy, who thus endeavours to resolve his doubts as to the hour:

> "Dandelion with globe of down,
> The school-boy's clock in every town,
> Which the truant puffs amain
> To conjure lost hours back again."—W. Howitt.

Thus the seeds are sent abroad on their stalked and wavering parachutes, and when at length they reach the ground, we find that the seed must descend in the soil in one direction only, for it is armed with prickles that, pointing all upwards, hinder their reverse burial, and equally prevent their reascent to the surface*. There is no forced theology in noting this small instance of prescient wisdom,—but many of the preceding facts have been usually adduced as proofs

* For other notable peculiarities in the flower of the Dandelion, see Drummond's Letters to a Young Naturalist, p. 124–132, 2nd edit. Lond. 1832.—I may here observe that the florets of the ray in Pyrethrum inodorum and the Chamomile hang down in damp weather, and after maturity. In all others of their family they close or shut up.

and examples of a vegetable irritability,—and it may be so,—but it would be well to inquire if the whole of them may not be dependent on a minute vesicular structure of the parts that necessarily subject them to the laws of endosmose and exosmose*.

With a few exceptions, such as the Daisy, the Antennaria, the Corn-Marygold, the Blue-bottle, the Hieracium pilosella, and the Solidago, our syngenesious flowers possess little beauty, and many of them are plain and uncomely. But there is a good deal to admire in their structure, and were we disposed to believe that Nature geometrizeth in all things, and follows a quincuncial order, we might here find many proofs of the hypothesis. Sir Thomas Browne points out, with the keen observation of a man on his hobby, that this mystical quincunx is elegantly observable in the squamous heads of Scabious, Knapweed, and Jacea; and the same is more or less marked "in the pricks, sockets, and impressions of the seeds" upon the surface of the common receptacle of the entire order. "In such a grove," he says, "do walk the little creepers about the head of the Burr. And such an order is observed in the aculeous prickly plantation upon the heads of several common Thistles, remarkably in the notable palisadoes about the flower of the Milk-thistle; and he that inquireth into the little bottom of the Globe-thistle, may find that gallant bush arise from a scalp of like disposure." Cyrus-Garden, p. 34.—From the contemplation of this orderly disposition, if the florist will pass to the examination of the individual florets, he will find that the division of parts into 5 is still predominant; and he will find too, that, if the entire flower is mean, these component florets show an admirable beauty in their miniature forms. As an example, let us select the florets from the Butter-bur (Plate VI. fig. 1) and observe how the long tubular corolla expands so prettily into its cup, cut into five equal segments turned back with easy elegance, and tinted with a delicate rose-colour that shows the cylinder of purplish anthers to advantage; while, like a memorial column, the white style raises itself from their centre. And the microscope unfolds new beauty; for the surface of this clubbed style under it appears softly clothed with murications, probably intended to retain the pollen powder, which is partly of a globular, and partly of an oval shape, but muricated like the style itself. The silken threads that spring from the base of the floret are armed with forward-pointed spines which seem to be arranged in a kind of whorl.

The seeds of the Syngenesia have been generally quoted in illustration of the pains that Nature takes to "scale†" her species, and

* See Golding Bird's Essays on the divergence of the cut stems of Plants in Charlesworth's Magazine of Natural History, vol. i. pp. 57 and 180.

† I have used the word purposely, as it permits me to add one more explanation of a vexed passage in Shakespere:—

> "But, since it serves my purpose, I will venture
> To *scale*'t a little more."—Coriolanus, Act i. Sc. i.

That is, as I think, to "disperse" or to diffuse the fable a little more,—

not unjustly. Most of them are provided with a coronet of silken fibres or feathers that form a parachute, through the means of which the seed is

"borne abroad upon
The winds of heaven, and scatter'd into air."

The form of this parachute is varied apparently for little better purpose than to raise our wonder, and stimulate our curiosity, towards the seeking out of the works of Him whose rich and beautiful fancy designed them; and I am satisfied that no one can examine the series of structures they exhibit without a conviction that special thought must have been employed in each of them. Elevated on the apex of a long beak, the parachute of the seed of the Goatsbeard (Plate V. fig. 1) consists of a number of slender spokes which diffuse themselves circularly, and are "telarly interwoven" somewhat after the fashion of the spider's web. This comparatively intricate structure is given as a countervail to the great size and weight of the seed. The down of the Dandelion is supported on a long and slender pedicle, and is an object of vulgar admiration; but it scarcely equals in beauty the similarly patterned fruit of the Helminthia (Plate V. fig. 2). The Thistle's down is, on the contrary, sessile,—the threads being sometimes only spinous, at other times plumed like a feather, —and the down of the latter is peculiarly light. The coronet of the Carline-thistle is remarkable for its elegance and circular spread and plumage, and buoys easily its silky-coated seed. In the Sow-thistles what we most admire is the ribbed and striated seeds, but the down that diffuses them is abundant and of pure whiteness. The seeds of the Coltsfoot (Plate V. fig. 3) afford an example of a structure common in the order, where the seed is surmounted by a tuft of silken hairs armed, at regular intervals, with a series of denticles or spines, only visible with a good magnifier. We have a contrast to this in the curious fruit of the Centaurea cyanus (Plate VI. fig. 2), which has a small tuft of asbestine spines at the base, and a large but short tuft of rigid stout lanceolate spines on the top, the edges of each of them indented with close and sharp serratures like a saw. This tuft cannot float the seed in the air, but it will obviously direct and hasten its descent into the soil; and it will be remarked that the forward direction of the spines, in all the instances we have yet quoted, must be opposed to every influence that would tend to cast them up again, after having been buried under the surface. We meet with a contrary structure in the seeds of the Bidens (Plate VI. fig. 3). The spines on their margins, and on their awns, are all retroflected,—an arrangement which better adapts them to the laying hold of objects on their

---

to make it known to those of the mob who had not heard it before. To give the meaning of "weighing" or "striping" to the word, gives no meaning to the passage. To "scale" the school is, in the Border language, to dismiss the boys from it: *e. g.* the "school is just scaled," is—the boys have just dispersed.

fall, for since they are without a pappous disperser, an immediate anchorage becomes necessary, lest they should be cast on the dry shore on the one hand, or, on the other, carried into too deep water, either accident being equally fatal to their germination; and the reflex disposition of the prickles does not hinder their burial in the soft mud, which is their proper seminal bed. See Fl. Berw. ii. p. 288.

The order embraces several agricultural weeds. The Coltsfoot is probably the most troublesome of them, in clay soils especially, for the penetrating and wide-spreading root is so tenacious of life that neither deep-ploughing nor trenching will eradicate the plant*. It will not, we presume, long resist the evil influence of surface-draining now become general; and the same process may destroy the Corn Sowthistle,—a vulgar weed to which a "radix nimium reptatrix" gives a vicious permanency. The Ragweeds and Knapweed are likewise common weeds, but not very injurious; and it is well known that the Ragweed, prevalent in the best of pastures where oxen only are grazed, may be destroyed by pasturing sheep with them. In our new pastures and meadows Thistles are sufficiently abundant, and to eradicate them from the former the bondager is annually employed for a few days; and in meadows they are mown with the hay, where they do no harm, for when dried, cattle eat them without reluctance, and they are doubtless as nutritive as other ingredients of the fodder†. We have still fields in our district overburdened with the Corn-Thistle, and where the reapers are gloved to reap the harvest with impunity; but careful industry has thinned the species everywhere, and now they are not, as in ancient times, gathered from the corn for the purpose of feeding the cattle. The farmer, when he eyes the vast profusion of seeds which every plant produces‡, and the manner in which they are disseminated, may despair of ever seeing them entirely dispossessed of their prior claim to his fields; but with some less productive species he has nearly succeeded, and the Corn-Marygold and Blue-Bottle are now rare where of yore they gave name to lands, and afforded similes in familiar conversation. Who now can trace to us the precise boundaries of the "Yellow Goulands" in the Liberties of Berwick? and how few understand what it is to be "as blue as a Blaver"? The Botanist who has seen them occupying a similar place to what they once did with us in the Highlands, will regret the flowers that are

* "I have completely overcome Colt's-foot by simply draining and hoeing. It was never suffered to produce flowers, or fully to expand the leaves; this plan persevered in, and faithfully executed throughout one entire season, was found sufficient to subdue it." Holditch on the Weeds of Agriculture, p. 37.

† See the remarks under the genus Cnicus.

‡ Dr. Woodward has calculated, that one thistle-seed will produce at the first crop twenty-four thousand, and consequently five hundred and seventy-six millions of seeds at the second crop. Martyn's Virgilii Georg. p. 34, edit. 1819.

wede away, for the gay and gorgeous effect they produce, where they form a large proportion of the crop, has a fine and exhilarating stimulus on every beholder, provided always that he is not a farmer, nor an agricultural student*.

The order is comparatively rich in officinal herbs, and it is fair to conclude, from the fact of their retaining a place in our most expurgated pharmacopœias, that the Dandelion, Chamomile, Wormwood, Tansy, Burdock, Coltsfoot, and Wild Lettuce possess medicinal virtues in those ailments for which they are prescribed. The Wild Lettuce is narcotic, the Dandelion and Burdock deobstruent and alterative, the Coltsfoot demulcent and tonic, the Chamomile, Wormwood and Tansy bitter with aromatic and tonic qualities, yet neglected in modern practice from the caprice of fashion, which sways the doctor as well as Bond-street. Now it is patent to remark how little this indication of their qualities tallies with an axiom insisted upon by some advocates of a Natural System,—viz. that "a knowledge of the properties of one plant is a guide to the practitioner, which enables him to substitute some other with confidence, which is naturally allied to it." Lindley, Nat. System, p. xvi.—But the local Florist gladly escapes from the speculations and practice of Science to the notice of traditional virtues attributed to these home-bred simples by the observant dame, who, in almost every village, disputes the palm of skill with the regular practitioner, albeit she now relies less on them than she did in the days of a foregone generation. Still there live dames who will prepare you wormwood and mugwort for the young friend whose languor and pale complexion tells her of the cold obstructions that these sovereign remedies will

* I happened once to travel in autumn from Edinburgh to Berwick with an accomplished American lady and her husband,—a professor of Geology. The lady's attention was greatly taken with the gay and gorgeous appearance of some corn-fields in E. Lothian, which were made roseate with the Poppy, and she expressed a wish to have seeds of this to take with her to America! The Professor, as we neared Berwick, remarked on the yellow which predominated in some old grass fields; and asked the name of "that fine plant"—the Ragweed—which gave that predominance. Satisfied with the answer, the Ragweed, under a learned alias, was duly written in a note-book.

Yellow is certainly the ruling colour amongst our wild flowers. A table of flowers according to their colours might not prove this, or might even disprove it, but the assertion is a fact nevertheless. In spring the Coltsfoot, the Pilewort, the Dandelion, the Primrose and Cowslip;—in early summer the Buttercups and King-cups;—in a later season the Syngenesia generally and the Wild Mustards,—whole fields are yellowed with them everywhere,—and the Cistus and the Tormentil glow golden on our braes and muirs; and in autumn the Hawkweeds and Ragweeds are aided throughout the landscape with the yellow hue of every herb that hath flourished and now decays.

"The haunt o' Spring 's the primrose brae,
The Simmer joys the flocks to follow;
How cheery through her shortening day,
Is Autumn, in her weeds o' yellow!"—BURNS.

restore *; and the inexperienced mother is recommended to give Wormwood, especially the Sea-Wormwood, and cakes and puddings tainted with Tansy†, to her vermigerous child. The diuretic properties of the Dandelion are familiarly known; and a decoction of the root of the Burdock is in occasional use for the relief of gravel, and the removal of old eruptions and scorbutic spots from the skin‡. A decoction of the Coltsfoot is oftener given than the doctor is aware of, in spring coughs and consumptions; and an ointment for stiff-paste, made from an extract of the roots of this plant, to which Burgundy pitch and some other ingredients were added, was in great repute in Roxburghshire as a cure for sprains and all swellings about the joints. The roots of the Butter-bur are used in Berwickshire, in a similar way, for curing white swellings on the knees§. Tansy and Millfoil were reckoned amongst plants averse to fascination; but we must retrograde two centuries to be present at the trial of Elspeth Reoch, who was supernaturally instructed to cure distempers, by resting on her right knee while pulling "the herb callit melefour" "betwix her mid finger and thombe, and saying of, In nomine Patris, Filii et Spiritus Sancti‖." The reputation the plant still retains may be only traditional, but certainly I have seen it gathered in handfulls, and, on enquiry of an old infirm man so engaged, I was told that it was "a grand thing for inward complaints." The Feather-fuilly owes its place in the cottager's garden to its former fame as "a singular remedy for diseases incident to the matrix", but now I cannot ascertain that it is ever used; and modern physick supplies, with all deference to Nicholas Culpeper, Student in Physick and Astrology, more grateful antidotes to "melancholy and sad thoughts¶."

* "Wad ye let the bonnie May die i' your hand,
And the *Mugwort* flowering i' the land?"
See Chambers' Popular Rhymes, p. 34.

In the "History of the Medical Profession" contained in the Medical Annual for 1839, p. 116, and written by William Farr, there is a curious account of the virtues of Mugwort as believed in in Saxon times. See also Bulleyne's Boke of Simples, fol. xix.

† "On Easter Sunday be the pudding seen,
To which the Tansy lends her sober green."
See Brand's Pop. Antiq. i. p. 166.

‡ The Burdock was formerly much used as a diuretic, which virtue it possesses in a very considerable degree. Dr. F. Douglas.

§ Comp. Corresp. of Ray, p. 373.

‖ Dalyell on the Darker Superstitions of Scotland, p. 22.—The "Meleflour" is the Achillea, for in a subsequent part of the volume it is said to be the same as the "Nose-bleed." "It is an old superstition to take a leaf of Achillea millefolium, and tell one to put it up his nose, turn it thrice round, and all the while think of his sweetheart: if his nose bleeds, he is sure to get her. The application scarcely ever fails, at least if the leaf be smartly turned. Hence the old name of 'Nose-bleed' given to this plant." J. Hardy.

¶ The Groundsel and Eupatorium deserve to have their properties investigated: they produce powerful effects even in outward application. The former is noted for allaying "swellings."

The Syngenesia most interesting to the local Botanist are the Bidens tripartita and cernua, the Centaurea scabiosa, and the Helminthia, which have each of them but a single habitat in our district. The Helminthia is here found on the northern bank of the Tweed, although it is not yet registered in the Flora Scotica; and to that Flora Senecio erucifolius was first added by the Rev. A. Baird, a member of the "Club." Another member, Dr. R. D. Thomson, first drew that degree of attention to our Tragopogon which led to its true designation. The Lactuca virosa apparently attains a size on the banks of the Tweed much beyond what it rises to in other districts, where its height is usually stated to be from two to four feet; but whether this is owing to its habitat, being with us invariably in a soil overlying sandstone, or to superior shelter, I cannot say. The Crepis succisæfolia, and three or four of our Hieracia, are sought after from their sparing distribution in our island. In another sense no plant of the order equals in interest the Scotch Thistle, and it behoves the botanist to aid the antiquary in the right determination of the species. The plant carried in the processions of Freemasons is the Onopordum acanthium*, and the friends of Burns have planted this tall and stately thistle around his grave in Dumfries,—forgetful surely of the inappropriateness of planting an *alien* over the remains of him whose boast it was to sing, in wood notes wild, the rural scenes and rural pleasures of his native soil in his native tongue†. The preference the Onopordum has thus obtained is solely from its size and erect mode of growth; and I am informed, by an old mason, that so satisfied are initiated gardeners of this, that it is usual for them to stick upon its strong spines the heads of the Milk-Thistles. This, in the Flora of Berwick-upon-Tweed, was assumed to be the "emblem dear to Scotland's sons,"—an assumption which has been controverted by Mr. Dovaston, who made the question "an object of most particular inquiry." "We were," says Mr. Dovaston, "told by an intelligent gentleman in the Hebrides, Donald M'Lean, a young chieftain, that what he showed us, the Carduus eriophorus, was the Scotch Thistle. At Inverness, Sir James Grant said the Scotch Thistle was the only one that drooped, Carduus nutans. After many such remarks, we were at length told by a very intellectual gardener at Roslin, and by Sir William Drummond at Hawthornden, that no particular Thistle, but any Thistle the poet or painter chose, was the national flower of Scotland; and this opinion we heard repeated in Edinburgh, at the tables of several learned and hospitable gentlemen. Though generally emblematical

* "What is denominated by gardeners the Scotch Thistle, is Onopordum acanthium, a plant doubtfully native of Scotland." Balfour's Manual, p. 440.

† The Carduus lanceolatus was the Thistle which Burns himself considered to be the Scotch Thistle:—

"The rough *Bur-thistle* spreading wide
Amang the bearded bear,
I turn'd the weeder-clips aside,
And spared the symbol dear."

of the whole nation, it is in particular the badge of the clan Stewart. On the wet sides of some hills we, not unfrequently, found the C. heterophyllus, or gentle thistle, which was much and justly admired, and by some (erroneously) thought peculiar to Scotland: this, however, could not be the national emblem, as, being destitute of thorns, it would ill accord with their formidable Latin motto." (Leighton's Flora of Shropshire, p. 399.) Mr. Dovaston has somewhere made himself merry with the "Cocknies," and yet who but one of that race would have gone amongst the Gaël to enquire after a Scotch device or fashion, more especially after the badge of a clan which, Mr. Dovaston should have known, had a Merse or Berwickshire origin*? And the reason Mr. Dovaston assigns for excluding Carduus heterophyllus from the honourable distinction, ought to have equally convinced him that the opinion of his learned friends in and about Edinburgh was untenable, for there are several common Thistles to which the "Nemo me impune lacessit" is inapplicable. It has occurred to me that a solution of the question might be sought for in an examination of the figures impressed on the money of the Kings of Scotland. Now the first who so marked his money was James V.; and on the coins of his reign (1514 to 1542), the head or flower of a Thistle only is represented. On a coin of James VI. of 1599 (Plate ii. fig. 4) there are three Thistles grouped and united at the base, whence two leaves spread laterally, and the stalk of the plant is spinous. On later coins, as in one of 1602 (Plate ii. fig. 5), there is only a single head, while the leaves and spines are retained; and this figure is the same given on all subsequent coins,—the form of the flower itself having suffered no change from its first adoption. This evidence seems to me to put Carduus nutans, and the greater number of the species, out of court, and very much to invalidate the claims of the Onopordum; but greatly to strengthen our belief that Carduus marianus was the chosen emblem of the national pride and character, although it must be admitted that the resemblance between the plant and the picture of the artist is somewhat postulatory. The bold motto was the addition of James VI., and Carduus marianus is almost the only species that would naturally suggest it, or that really deserves it†; but I suspect the reason for the preference of Carduus marianus as the emblem was the fact of its dedication to the mother of our Saviour,—a drop of whose milk, having fallen on the leaves, imprinted the accident in those white veins which so remarkably distinguish them‡. The period at which the

* The Royal family had their origin in the Stewarts of Bonkil or Buncle. The remains of the old fortalice are still visible.

† Professor Balfour, in "The Bass Rock," p. 419, Edin. 1848. An argument in its favour may be derived from the fact of its having "been cultivated in the neighbourhood of castles in Scotland," about whose ruins it is now found.

‡ "The purple-flowered Lady's Thistle, the leaves of which are beautifully diversified with numerous white spots, like drops of milk, is vulgarly thought to have been originally marked by the falling of some drops of the Virgin Mary's milk on it, whence, no doubt, its name Lady's, *i. e.* Our Lady's Thistle." Brand's Pop. Antiquities, i. p. 48. (Bohn's edit.)

Thistle was emblazoned was rife in these religious associations and adoptions *.

There are many pleasant remembrances associated with our compound plants. In early spring our village children go forth, in happy groups, to gather the Daisy, which they make into nosegays with the bog-spinks and the buttercups,—or they string the pretty flower into necklaces,—or they dress a twig of the budding thorn with it, sticking a flower on every shoot and spine; and, while thus amused, the infirm or convalescent nurse will, silently and unobserved, place her foot on the gowan, in the hope, cherished still amidst many misgivings, that new health and life is now assured to her. As the season advances, girls may often be seen, in our green lanes and meadows, pulling the Dandelion, the fistular stalks of which they join together in long linked chains either for bracelets or for relief from ennui; and the school-boy blows away the seed down in the hope of being told that his time for play is not yet expired, or that he may now safely return from his truant stroll†. And now when summer has made all vegetation rife, our boys do, as we once did, wander to a distance to gather the best of dandelions and sow-thistles for the pet rabbits, and I would be loath to forget the pleasure of these excursions; nor less so, the friendly combats when, in autumn, we pelted each other with adhesive burs, or slily stuck them to the backs of our elderly and unnoticing friends. I like to recall these childish plays,—and the time too when, in coming manhood, our

* A silly tradition carries the origin of the Thistle as the national badge up to the Danish invasion. In a night assault a barefooted Dane trod on a Thistle, and uttering a cry from the sudden pain, the sleeping Scotch were timeously aroused and succeeded in defeating the enemy. Henceforth the Thistle was elevated to its present distinction. See Notes and Queries, v. p. 281.—Sir Harris Nicholas traces the badge to James III., for, in an inventory of his jewels, Thistles are mentioned as part of the ornaments. Ibid. i. p. 90.—But, according to Pinkerton, the first authentic mention of the Thistle as the badge of Scotland is in Dunbar's beautiful poem entitled "The Thrissell and the Rois," written in 1503, on occasion of the marriage of James IV. with Margaret Tudor. Hamilton of Bangour expressly states that the plant was the "monarch's choice" (Notes in Dunbar's Poems, ii. p. 219); and Sir D. Lindsay, in 1537, mentions it as the emblem of James V. "quharein all Scotland saw their haill plesance." Dunbar, to vindicate his Sovereign's choice, elevates the "Thrissill" to the sovereignty of all herbs and of "every flour of vertew, most and leist;" and in the symbol finds the noble qualities of a King. I would that my readers would refer to the poem, of which I can here quote one stanza only:—

"Than callit scho all flouris that grew on feild,
Discirnyng all thair fassionis and effeiris:
Upone the awfull Thrissil scho beheld,
And saw him kepit with a busche of speiris;
Considering him so able for the weiris,
A radius croun of rubeis scho him gaif,
And said, In field go furth, and fend the laif."—Works, i. p. 8.

† "Her treading would not bend a blade of grass,
Or shake the downy *blow-ball* from its stalk."—Sad Shepherd.

love for these flowers was strengthened by the odes, and similes, and allusions of those pastoral poets in whose verses we luxuriated. Now we do not wonder at Carey's anxiety and care in rearing the Daisy in India; and we enter into his joy when first it put forth its opening bud to look on the sultry glare of a sun that loved it not. Now we think it natural that the Daisy claimed in yore due obeisance from knights and their dames as the emblem of fidelity and love; now we participate in all old Chaucer's hearty enthusiasm. He was never weary of singing the beauty of the Daisy, and his admiration was sincere. He says,

"The long daie I hope me for to abide
For nothing ellis, and I shall not lie,
But for to lokin upon the Daisie,
That wel by reason men it callè maie
The Daisie, or els the eye of the daie:
The emprize, and the floure of flouris all."

And again he tells us,

"that there is game none
That fro my bookis makith me to gone:"

yet did oft his love of this "star of the mead" force him away from them:—

"To them have I so grete affectioun,
As I saied erst, whan comin is the Maie,
That in my bedde there dawith me no daie
That I n'am up and walking in the mede.
To sene this floure ayenst the sunnè sprede
Whan it upriseth erly by the morowe;
That blissfull sight softinith all my sorow;—
So glad am I when that I have presence
Of it to doin it all revèrence,
As she that is of all flouris the floure,
Fulfillid of all vertue and honoure,
And evir alike faire and freshe of hewe
As wel in winter as in summir newe;
This love I evre, and shall until I die,
All swere I not of this, I woll nat lie.
"There lovid no wight hottir in his life;
And whan that it is eve I rennè blithe,
As sone as evir the sunne ginnith west,
To sene this floure how it woll go to rest;
For fere of night, so hatith she darknesse,
Here chere is plainly spred in the brightnesse
Of the sunnè, for there it will unclose:
Alas that I ne' had English, rime, or prose,
Suffisaunt this flourè to praise aright*!"

356. Campanula latifolia. Throat-wort.—Deans. B. Dulaw dean; and in the Pease dean above the bridge. Banks of the White-adder below Chirnside bridge, Dr. R. Dunlop. On the wooded bank of a stream below Chatterton-ford, on the farm of Crunkley, in the

* "Legende of Good Women,"—in which there is much more to a similar purport.

parish of Edrom, G. Henderson. Langton wood, and Lees' cleugh, Rev. Thos. Brown. Castlelaw woods; and in a wood S.W. of Polwarth church, Dr. R. D. Thomson. Ridpath dean. R. (Plentiful in the beautiful deans at Linthaughlee.) Aug.

357. C. ROTUNDIFOLIA. **Blue-Bells: Ladies' Thimbles.** Common. On heaths, in deans, and by foot-paths through fields; in tufts on dry crumbling banks, on scaurs, and in the crevices of rocks and old walls. Thus it fixes itself on almost every ancient ruin; and it has been amongst the first to take possession of the chinks in the masonry of the monument erected to Wallace on the heights above Dryburgh.—Summer and Autumn.—This is the "Blue-Bells" of Scotland, although the Scilla nutans has been often so miscalled by those who knew not our "floral language." James Grahame and Sir Walter Scott knew better, properly marking its season.

> "As yet the Blue-bells linger on the sod
> That copes the sheepfold ring; and in the woods
> A second blow of many flowers appears,
> Flowers faintly tinged, and breathing no perfume."—GRAHAME.

> "but still,
> When summer smiled on sweet Bowhill.
> And July's eve, with balmy breath,
> Waved the Blue-bells on Newark heath."—W. SCOTT.

Delta's Harebell ("Poems on Flowers in Poetical Works," ii. p. 149.)—the "Blue-bell of Scotland"—is not distinctly defined, but the concluding lines prove it to be the Campanula:—

> "Sweet floweret of the pastoral glen,
> Amid the stir, the strife of men,
> Thou speakest of all gentle things,
> Of bees, and birds, and gushing springs,
> The azure lake, the mossy fount,
> The plaided shepherd on the mount,
> The silence of the vale profound,
> And flocks in quiet feeding round!"

An anonymous contributor to Hone's Every Day Book, vol. i. p. 901, has so graphically described the stations of our Campanula—his Bellflower—that I cannot resist the temptation of quoting some of the stanzas:—

> "With drooping bells of clearest blue
> Thou didst attract my childish view,
> Almost resembling
> The azure butterfly that flew
> Where on the heath thy blossoms grew
> So lightly trembling.
>
> "Where feathery fern and golden broom
> Increase the sandrock cavern's gloom
> I 've seen thee tangled,
> 'Mid tufts of purple heather bloom
> By vain Arachne's treacherous loom
> With dewdrops spangled.

" 'Mid ruins tumbling to decay,
Thy flowers their heavenly hues display,
Still freshly springing,
Where pride and pomp have pass'd away
On mossy tomb and turret gray,
Like friendship clinging.

* * * * *

" But most I love thine azure braid,
When softer flowers are all decay'd,
And thou appearest
Stealing beneath the hedgerow shade,
Like joys that linger as they fade,
Whose last are dearest.

" Thou art the flower of memory;
The pensive soul recalls in thee
The year's past pleasures;
And, led by kindred thought, will flee,
Till, back to careless infancy,
The path she measures."

The flowers vary in the intensity of their colour, and are occasionally pure white.—Our children have a custom of blowing into the flower bell; and then, placing it erect on the back of one hand, they make it crack by a smart stroke with the other.

358. VACCINIUM MYRTILLUS. Blaeberry. (Hurtberries. See Fuller's Worthies, i. p. 396.)—On heaths

" Where the blae-berries grow
'Mang the bonnie bloomin' heather;"

and in woods. In the latter station the plant may be frequently observed growing vigorously under the shade of trees where scarcely another will vegetate. The Blaeberry, also, makes a large proportion of the vegetation which covers our higher hills. On the 8th Sept. 1852, I cut a sod, about four inches square, from near the summit of the easternmost of the Eildons, and I found it to contain the following plants only; viz. Vaccinium myrtillus, Festuca ovina, Dicranum scoparium, Cenomyce rangiferina, Hypnum purum, H. Schreberi, H. splendens, Galium saxatile, and Tormentilla officinalis.

Boys who love to rove "the bushy brakes and glens among," eat the flowers in anticipation of the fruit. When this is ripe, parties of pleasure are sometimes made to go a gathering of it. Boiled in milk, and seasoned with sugar, the juicy berries form a dish which is, on the whole, a poor one. They are more agreeable when eaten as pulled from the shrub, especially when this grows on a sunny brae. There is a current belief that a good crop comes only every alternate year. The flowers are much frequented by ants.

359. V. VITIS-IDÆA. Mountain heaths. B. Banks of the Whiteadder near Abbey St. Bathans; and about the top of Dirrington Law, Rev. Thos. Brown. N. Higher parts of Cheviot, and of Hedge-hope. Hepburn Hill at Chillingham. June–July.

360. V. OXYCOCCUS. Cranberry: and it must be the Crawberry of Tannahill.—"He pu'd me the Crawberry, ripe frae the boggy fen." Works, p. 31. Sphagnous bogs. B. In a bog N. of Sweethope farm, Rev. Thos. Brown. Lurgie Loch, Mr. R. Hislop. R. In the bog below Smailholm Tower. D. Haiden dean. Bog below Shoreswood Hall. N. Moors between Belford and Wooler, plentiful, Thompson. Ford Woodend moss. Base of Yevering Bell, Dr. F. Douglas. Learmouth bog; and bog to the W. of Hoselaw Loch. June–July.—Gradually becoming rare from the encroachments of the farmer. I can remember the time when a small quantity of native Cranberries were annually sold in Berwick; but the practice is obsolete, and the fact may soon be disputed. There was once a "cranberry boag where the grounds of Tweedmouth, Ord and Scremerston doe meet," of such extent and vulgar notoriety as to have been made a land-mark; but were other boundary unknown, it might now require a nice and judicial enquiry to determine the exact position of this bog.—A monstrous growth is occasionally found on this pretty creeping shrub, which has much the appearance of a parasitical plant, and has been mistaken for one. It is a succulent branch which grows from the stem and rises to the height of two or three inches, the leaves upon it being alternate, spathulate, fleshy, entire, and covered with a mealy powder.

361. ERICA TETRALIX. Boggy places on moors, frequent. A very beautiful species, which has occasionally white flowers. It descends on Ross links almost to the sea-level. July–Aug.

362. E. CINEREA. Heaths, abundant. A variety with white flowers occurs occasionally; and, on the banks of Coldingham lough, I have gathered it with rose-tinted flowers,—an eminently beautiful plant. July–Aug.—This is the She-Heather of the Lammermuir herds, who thus ungallantly indicate their opinion of its inferiority to the Ling.—Where they grow to a sufficient height *, all our Heathers are cut for thatch; and muggers and gypsies make with them besoms and scrubbers for cleaning milk bowies, &c. "Erica cinerea, when well-grown, makes barn-brooms superior to those made of Calluna vulgaris, which are often hard and stumpy, and not so tough and flexible as the former." A. Hepburn.

363. CALLUNA VULGARIS. Hooker's Brit. Flora (1830), i. 177. Heather: He-Heather.—The principal covering of our moors, and descends without reluctance to the sea-coast. The beautiful flowers are commonly rose-coloured, but a white variety is occasionally met with; and another variety with a hoary or pubescent foliage is not uncommon. The Calluna is called He-Heather from its superiority as a fodder, for sheep have an aversion to other heaths, on account, shepherds say, of their bitter taste. As the old plants become woody, it is customary, and has been so from the earliest times, to burn the

* "The hyest heth that ever I saw groweth in Northumberland, which is so highe that a man maye hide himselfe in it."—W. Turner.

heather, in fixed proportions, once in three or four years *. "This encourages the growth of grass among the heath, by admitting the influence of the sun and air, and by the manure communicated from the ashes of the burnt heath; and it gives leave for young and tender plants of heath to spring up, in place of the old and unprofitable woody plants that have been burnt down. When allowed to stand unburnt for a good many years, heath is apt to disappear altogether, after the application of fire; which is often a misfortune on moors unfit to produce better pasture plants, at least for many years afterwards." Kerr's Berwickshire, p. 342.—In the Scotch Parliament, February 1401, in the reign of Robert III., a statute was made "to be observed through the whole realm, that there should be no muir-burning, or burning of heath, except in the month of March; and that a penalty of 40 shillings should be imposed upon any one who dared to contravene this regulation, which should be given to the lord of the land where the burning had place." Tytler's Scotland, iii. p. 110. In the first parliament of James I. of Scotland, holden in 1424, this enactment appears to have been renewed with some modification. "No man, under a penalty of 40 shillings, was to burn muirs from the month of March till the corn be cut down; and if any such defaulter was unable to raise the sum, he was commanded to be imprisoned for 40 days." Ibid. p. 215.—It is reckoned beneficial to the health of sheep on turnips, if they have liberty of grazing out on heather.—In the Lammermuirs it is one mark of an early season if this heath is in bloom before the 12th of August†. Usually it begins to blow about the middle of the month, when the flowers of our fields are mostly gone; and it then becomes advantageous to carry Bee-hives to the moors, as is practised in several places in the district. There are few flowers which yield more honey, and since they are twenty fold more numerous in the same space than any others, the bees collect their stores with rapidity ‡. The plant ap-

* "How grand the scene yon russet down displays,
While far the withering heaths with moor-burn blaze!
The pillar'd smoke ascends with ashen gleam;
Aloft in air the arching flashes stream;
With rushing, crackling noise the flames aspire,
And roll one deluge of devouring fire;
The timid flocks shrink from the smoky heat,
Their pasture leave, and in confusion bleat,
With curious look the flaming billows scan,
As whirling gales the red combustion fan."—LEYDEN.

The burning of heather, whins and fern is observed often to bring rain in its suite, and is sometimes productive of a very misty state of the atmosphere. Notes and Queries, v. p. 302. I find this is believed to be true in Berwickshire.

† "Rustici, ex vario Ericæ florendi modo, hyemis durationem et variam asperitatem præsagiunt." Haller, Flor. Leven, p. 90.

‡ "Upon thy sloping banks, and lonely glens,
Thy wide extended moors, and mountains hoar,
My country, many a beauteous flower beneath
The eye of morning smiles in gracefulness

pears to be affected, in its secretion of honey, by the nature of the soil on which it grows. Around Wooler there is a sandstone and a porphyritic soil. The bees on the latter produce considerably greater quantities of honey than those pastured upon the former. Heather honey is of a brown colour and has a peculiar flavour,—which raises it in the estimation of many.

> "The tiny heath-flowers now begin to blow;
> The russet moor assumes a richer glow;
> The powdery bells, that glance in purple bloom,
> Fling from their scented cups a sweet perfume;
> While from their cells, still moist with morning dew,
> The wandering wild bee sips the honied glue;
> In wider circle wakes the liquid hum,
> And far remote the mingled murmurs come."—LEYDEN.

Those shepherds who have passed their youth amongst the Lammermuirs have their gaits so affected by traversing the rough heath, that, for the rest of their lives, they are accustomed in walking to lift their feet higher than other people. This practice is called by the lowlanders "heather-lamping."—In a long continuous storm it is customary to drive sheep to some heathery spot, as the snow is usually drifted from the moors, and the heather lies bare, offering a welcome pasturage.

That the Picts knew the art of distilling an ale from Heather, some antiquaries consider a myth, and some a fact; and of the latter some maintain that there exist remains of the breweries in which this ale was made *. The secret died with the people; and the tradition of how it died so worthily is well told by Mr. Chambers, as it still lingers amidst the Lammermuirs, "the last ground contested by the Scots and Picts." Picture of Scotland, p. 26 †.

364. ARBUTUS UVA-URSI = Arctostaphylos uva-ursi. B. On the west side of Dirrington Law, plentiful, Rev. Thos. Brown. June.—The berries are known to the common people in the west of the county by

---

> And beauty; but, the chief o'er all the rest,
> Old Scotland's "symbol dear," which he, the Bard
> Of Coila, hath immortalised, and spared
> The inspiring emblem waving in the breeze,
> I love to mark; nor less the heather flower,
> Of scent delicious, and inviting still
> The eye to rest upon its beauty, spread
> For miles athwart the moor, where wild fowl haunt,
> And where the industrious bee collects her sweets
> Medicinal, and ministers alike
> To luxury's claims, and to the comforts which
> Sometimes descend to cheer the poor man's heart."—CREASE.

* See Wilson's Archæology of Scotland, p. 76.

† "It is also a general belief among the common people throughout Scotland and Ireland that the Danes brewed their strong ale from heather; a tradition which probably arose from the circumstance that in ancient times the Northmen spiced their ale with herbs; as, for instance, in Denmark with Dutch myrtle, or sweet willow (Dan. Porse), which grows in marshy heaths." Worsaae's Danes and Norwegians in England, p. 206.

the name of Rapperdandies, and are eaten by them, T. Brown. Can this singular name have any connexion with that of "Kappatialmas," given by the Laplanders to the berries of the Vaccinium vitis-idæa *? for our people have probably confounded the fruit of the two plants, that of the Arbutus not being eatable.

365. Pyrola rotundifolia. Rough bogs, rare. D. In the dean below Allerton mill; and in Haiden dean. N. Learmouth bog, R. C. Embleton. Newham loch, P. J. Selby. Mr. Carr mentions the plant as a native of Houndwood, and of the banks of the Ale in Coldingham parish, but these habitats need confirmation. Mr. Carr's herbarium contains no specimen of the genus. July–Aug.

366. P. media. Deans and moors. B. I have gathered it on the moor near the entrance to Dulaw dean; and Mr. Hardy in Red Clues Cleugh, Blackburn-rigg dean, Birchybank, and Kitchen Cleugh. In a hanging-wood opposite Grant's-house, Dr. W. Baird. Dirrington Law, Rev. Thos. Brown. On Shawnabank or Whare Burn above the ale-house at Abbey St. Bathans: and on Greenlaw moor. D. In Ancroft, Haiden, and Longridge deans, &c. July.

367. P. minor. Woods. B. In a wood at Orange-lane; and in a plantation to the north of Loch Lithtillum, Dr. R. D. Thomson. Blackadder plantations; plantations at Greenburn; in woods at Manderston-house. Banks of the Dye above Longformacus. In a wood between the farms of Simprin and Swinton-hill; and in a wood on the farm of Milne-Graden, J. Hardy. In almost every fir plantation in the west of Berwickshire, and in Roxburghshire, Dr. F. Douglas. —Mr. Hardy remarks that P. media flowers in greatest beauty when under long heather; and I have observed of P. minor, that, when grown in a pot, the leaf-stalks twist and contort themselves so as to reverse the natural position of the leaf, and make the upper surface look to the ground, in a manner which appears to me remarkable.

The circumstances that determine the appearance of this plant in our fir plantations are not well ascertained. It springs up in green patches after the baneful shade of the trees has extirpated the aboriginal possessors of the soil, such as the Heaths and smaller Carices. In this respect it resembles exactly the Linnæa borealis. Whence have their seeds come? Have they lain buried and dormant in the soil since the ante-roman period, when all this part of the country was covered with a forest? I think it not improbable. They were the fair flowers that were wede away with the destruction and abolition of the shelter and shade that fostered their growth; and that shade being restored, they again revive and occupy their ancient haunts †. They are peculiarly wild plants, and dislike civilization;

* As to this etymology, let it be remembered that the Borderers, although they cannot sound the letter *r* properly, are yet fond of introducing it where it should not be heard. For example, Doddington is always pronounced Dorrington.

† I find that Dr. Mackay has made some similar remarks in the Introduction to his Flora Hibernica, p. vi. And to my friend Mr. Archibald Hepburn, Anemone nemorosa, when growing unsheltered on our bare

and when we get amongst them, we feel as if the spirit was freed from bondage, and might be left safely to take its flight and freaks, "playing with words and idle similes."

368. P. SECUNDA. N. Yevering Bell. During an excursion of the Club in June 1834 (See Trans. i. p. 56), two specimens were picked, of which one was presented to the late N. Winch, Esq. of Newcastle, and the other is preserved in my herbarium. In a subsequent excursion the plant was not observed. It is, therefore, a point for the district botanist to settle,—Were the specimens gathered by the Rev. J. Baird and myself the last of their race, or was our research incurious or careless? The latter alternative may well be the correct one, for the days of our visits rained heavily. And there are other inducements to draw the botanist to the Bell, which, in several respects, is undoubtedly the most interesting of the Cheviots. "Paulinus at a certain time coming with the king and queen to the royal country-seat, which is called Adgefrin (=Yeverin), stayed there with them thirty-six days, fully occupied in catechising and baptizing; during which days, from morning till night, he did nothing else but instruct the people resorting from all villages and places, in Christ's saving word; and when instructed, he washed them with the water of absolution in the river Glen, which is close by. This town, under the following kings, was abandoned, and another was built instead of it, at the place called Melmin (=Millfield)." Bede.—A pilgrimage to the birth-place of Christianity in his district does not comport with a pic-nic party, but it consorts well with the pursuits of the botanical rambler, and hallows his walk.

The Bell is the central hill of a sort of amphitheatre, flanked, on the south, by the Tors, and lapsing, on the north, into a ridge that continues the Cheviots to Heathpool. It rises abruptly to the height of little less than 2000 feet, and forms a bell-shaped mass pretty well defined and separate from its neighbours. The botanist ascends it to most advantage on the south-east side, which is the steepest. He may start from Copeland Castle, where he crosses the Glen, and immediately reaches the hill. The base and side is covered to a considerable height with wood, little better than copsewood, but it gives shelter to many flowers which, whatever may be the season, impart their peace and joy to the wanderer. The wood is threaded deviously; and the trees have dwindled to brushwood as he begins to emerge from it above. Here there are many large irregular stony spots, with tufts of ferns and foxglove, and other plants jambed between the stones; and there are beds of the Brakens; but upwards of this, the hill is well-covered with green-swarded turf and heather, intermingled

---

moors, utters the suggestion that the plants there are the descendants of the race that blushed unseen in the woods which once occupied the heath. There is something to say in favour of this conjecture. I have noted that some of the muir habitats of the Anemone still retained a look of having been once the site either of brushwood that hung over a former loch or moss,—as on Lamberton muir; or of thickets of Birch and Mountain-ash, as on the muirs above Abbey St. Bathans.

or in patches. It was just where this heather touches on the shingle that we found the Pyrola. The top is crowned with circular mounds and fosses, and with the remnants of walls constructed of huge stones. These walls have been evidently circular, and have been, and are believed to be, the ruins of a temple erected in Druidical times to the worship of their god; but Druids and their temple are now become mythical with the learned. There is no harm in holding to the popular creed; and the imagination riots on this high hill, as it tries to rebuild the temple, to refurnish the feast of the Baaltein, and to rekindle the sacrifice and the ascending fire, which greeted the sun as he arose glorious from out the sea on the east shore, and was hailed as the divinity with shouts from the worshippers crowded on the vale beneath. I believe in the popular creed*.

The view from the hill is very extensive, and full of interest. You look abroad into the varied scene, and in the far distance are descried the spire of the Town-hall of Berwick, the uncertain haze that overhangs the sea and mingles with the heavens, and the field of Halidon; and westwards Dunse and Dirrington Laws bound the landscape. The plain of Millfield lies level at our feet glistening with the silver line which reveals the very sinuous way of the Glen through it, and smiling with the golden culture that waves so gently over its surface. The poverty of the village that occupies its centre forces on the memory, in contrast, the ideal picture of its former regal state; and we easily again clothe the plain with the broom which was long enough to ambuscade warriors of yore. Humbledon, or Holmedon-field, lies on the south marked with its memorial stone, where the brave fell thickest;

—— "two-and-twenty knights,
Balk'd in their own blood;"—

in front lie the heights which hid the march of Surrey when he led his army to Flodden; and Flodden itself is on the left of us hard by. Surely this is classical ground; but I may not dwell on scenes and events which the pen of Scott has gifted.

In the Wern. Mem. v. p. 228, Mr. David Don has published a learned and excellent monograph on the Pyrolæ, which the student of this genus should consult.

369. Ilex aquifolium. The Holly: Hollen: Holyn.—Deans, frequent. "In Northumberland we know several remains of natural woods where the Hollies are numerous, and where many have attained a size equal to those upon record. At Detchant, near Belford, in a large natural wood, there are still Hollies of a very large size, though most of the finest have been cut down within the last few years, and their valuable timber sold to the herring-curers. At Twizell House there are also several Hollies of ancient growth and considerable size in the wooded dells and other remains of natural wood."

"In natural woods, and especially in the deep glens and rocky denes of our northern districts, however beautiful and diversified the

* See the Pict. Hist. of England, i. chap. ii. sect. i.

scenery may be, it never fails to receive an additional life and charm wherever the Holly is present to intermingle its glossy foliage with the various tints around it. Oft have we stood and lingered in our walks to watch and admire the bright and fleeting lights produced by our favourite evergreen, as moved by the gentle zephyr: its polished leaves have reflected, in diamond-like coruscations, the rays of light as they penetrated the recesses in which it grew, at the same time that its rich dark green foliage, by force of contrast, gave an additional value to the paler tints of the mountain ash, the hazel, and various other shrubs which grew around it." Selby, Forest Trees, pp. 39–40.—"A large Holly, inclosed with a wall, marks the spot" where James II. was killed during the siege of Roxburgh Castle. Pennant's Tour, 1772, p. 272. The wall has been removed, and a rail properly substituted; and the Holly-bush ornaments "the lawn in front of the Duke of Roxburghe's mansion of Fleurs." Morton's Teviotdale, p. 94 *.—There is a fine row of Holly-trees lining part of the avenue to Ayton Castle,—very beautiful in early winter when loaded with their coral berries. The practice of planting Hollies in this manner must have been early adopted, previous, I think, to the introduction of topiary work; for some such hedges are very old. Upwards of three centuries since Wallace is said to have lain hid in a hedge

"Off great Hollyns that gren baith heych and greyn."

In the north of Northumberland the Holly is divided into two kinds,—the He and She Hollies. The former is distinguished by having prickly leaves, while in the latter they are unarmed or nearly so. When gathered in the proper manner, and at the fit hour, the She-Holly engenders dreams concerning that all-absorbing object, a future husband or wife. To ensure this the leaves must be pulled upon a Friday, and at midnight, by parties who, from their setting out until next day at dawn, must preserve unbroken silence. They are to be collected in a three-cornered handkerchief; and after being brought home, nine of the leaves must be selected and tied, with nine knots, inside the handkerchief, and then put under the pillow. A dream worthy of credit is the result. See the Border Table Book, viii. p. 254.

* Of the Castle of Roxburgh Pennant gives a description as it was in his time. Tour, 1772, ii. p. 271; and it has been noticed by every subsequent tourist. Sir Walter Scott alleges, that "a vicinity more delightfully appropriate to the abode of the sylvan deities (viz. the Fairies) can hardly be found. Two rivers of considerable size, made yet more remarkable by the fame which has rendered them in some sort classical, unite their streams beneath the vestiges of an extensive castle, renowned in the wars with England, and for the valiant, noble, and even royal blood, which has been shed around and before it;—a landscape, ornamented with the distant village and huge abbey tower of Kelso, arising out of groves of aged trees; —the modern mansion of Fleurs, with its terrace, its woods, and its extensive lawn, form altogether a kingdom for Oberon and Titania to reign in, or any spirit who, before their time, might love scenery, of which the majesty, and even the beauty, impress the mind with a sense of awe mingled with pleasure."—Letters on Demonology, p. 119.

The interesting and ancient fashion of ornamenting the parish church with evergreens, and Hollies especially, at Christmas, was not known in our district until within these few years; and only a few, I regret to say, are yet so ornamented. But the church of Norham will have its influence in due time. "The name of Holly is a corruption of the word Holy, as Dr. Turner, our earliest writer on plants, calls it Holy, and Holy-tree, which appellation was given it, most probably, from its being used in holy places." See Notes and Queries, vi. p. 487*.—Some are fond of decorating their houses with the Holly at the Christmas season, for we have not the misseltoe; and the dinner table, on holyday festivals, is sometimes garnished with the berried sprigs. The young shoots are much coveted for whip shafts. The knots or knurs on the stem are in repute for making snuff-boxes. A habitual story-teller, our cautious people characterize metaphorically—"He lees never but when the Hollen is green." We find the saying used by William Dunbar, a native of East Lothian, contemporary with Chaucer†:—

"Omnia mea solatia
They wer bot lesinges all and ane,
Cum omni fraude et fallacia,
I leif the maister of Sanct Antane,
Willelms Gray, sine gratia,
Myne aune deir cusing, as I wene,
Qui nunquam fabricat mendacia,
Bot quhen the Holyne growis grene."
Dunbar's Poems, i. p. 139; and ii. p. 321.

19. *Ligustrum vulgare.* The Privet.—Common in shrubberies and often planted in hedges, as in those of the Ladykirk estate. It appears naturalized in the Pease-bridge dean; and on the Whiteadder, near Allanton. July.

370. FRAXINUS EXCELSIOR. The Ash or Esh.—It was an astute scepticism that prompted a doubt as to the indigenousness of the Ash; nor could we now resolve the doubt from any evidence produced from the habitats in which the tree is found, for its seeds or keys are easily carried anywhere. But the Leges Wallicæ were made before the art of planting was practised; and by them the value of the Ash is ruled to be "four legal pence," the same as that of the alder and willow. Book iii. p. 142: and from Wales we are carried into our own district on the burden of an old ballad, which wo 'nt let us forget that—

"The Oak, the Ash, and the Ivy tree,
O, they flourish best at hame, in the north countrie."

---

* I need scarcely say that this derivation of the name is very erroneous. For the real source, see the Dictionaries of Bailey or Richardson.

† Chalmers makes Dunbar a native of Berwickshire:—"This county has the honour of having produced Thomas of Ercilton, the earliest poet. William Dunbar, the best poet of Scotland, and Grizel Baillie, the daughter of Patrick, Earl of Marchmont, are of the sweetest of her lyrists." Caledonia, ii. p. 305.

Probably, however, the Ash was the first of trees which care was taken to plant and multiply, for no other was so useful, in primitive agriculture, in the construction of the necessary implements; nor could any other afford a wood so excellent as fuel:

"Ash, when green,
Is fire for a queen."

Hence it is, that we find the oldest Ashes hard-by the seats of ancient "Houses"; by ruins of bastiles and castles; and they are often the sole memorial left to tell the tale of homesteads that have stood in what are now out-of-the-way places. And when properties got each its boundary, and the area began to be divided into fields, the Ash was planted in every hedge; and there is a statutory enactment enjoining future landlords to plant a number of Ash trees around each onstead, according to the size of the farm. The result is, that the Ash is much more common in hedge-rows to this day than any other tree; and in the long lines formed by them, there is not one that is possessed of any dignity or beauty. It is otherwise when growing alone—whether in the lawn, or on the heaving mound of the moated castle, or on the primrose bank in the dean, where its "umbrageous arms" almost touch the burn that washes its bared sinewy contorted roots. In these sites, when old, it is a noble tree; nor is it deformed by the fungous growths that infest its trunk. And a young Ash is beautiful in the dean when it rises up, clean and erect, from amidst the sloes and brushwood that tangle the brae, and before age has spread its branches or curved their extremities. Burns has taken such a tree to confer a compliment:

"She 's stately like yon youthful Ash,
That grows the Cowslip braes between,
And shoots its head above each bush."—"Chessnock Banks."

Amongst the remarkable trees in Scotland, Dr. Walker mentions "an Ash at Mellerstain House in Berwickshire. It stands in a plantation, by the side of the east avenue to the house. It is a vigorous thriving tree, near 80 feet high, and was about 80 years old in September 1795, when it measured 8 ft. 1 in." Essays, p. 10. This tree was blown down many years ago, and its stump is now covered with Ivy. Dr. F. Douglas. Perhaps the finest Ashes in Berwickshire are those at Hutton Hall*. There are some scarcely inferior about

* Hutton-hall—one of the most picturesque seats on the Whiteadder, fast hastening to decay. In celebrating one of Johnnie Armstrong's rides, the bard goes on to tell—

"Then they 're come on to Hutton-ha,
They rade that proper place about;
But the laird he was the wiser man,
For he had left na geir without."
Pennant's Tour, ii. p. 276.

Unfortunately the canny prudence of this Laird was not included in the

Foulden, and about Ayton-Castle; and most other seats have their Ashes worthy of sight, or even plantations of them that are fit settlements of the Rookery. Some reader may happen to remember the Ash which grew in the tower of Ancroft Church, and rose above the parapet, conspicuous afar. It is properly introduced into the figure of the church given by the Rev. Mr. Raine in his Hist. N. Durham, p. 215; but the interesting "landmark" was rooted out during some late improvements.—An old Ash known by the name of the Chapel-tree, and which grows on the chapel knowe, marks the site of the ancient chapel of Leitholm, connected with the monastery of Eccles. See Stat. Acc. Berwicks. p. 50.

The Ash is all but the last tree that comes into leaf, and when all others around it smile in the freshness of their spring foliage, it draws attention by its nakedness, and by the black knobs of unblown flowers that can scarcely be said to ornament the branches. It was a rude stage of farming, when it was wont to be said,—"It is not too late to sow beer when the leaves of the Ash cover the Pyet's nest,"—which may be about the middle of June. Another saying of the same period gives us the then estimate of its value,—"The Ash will buy the horse before the Oak is worth the saddle."—And it seems that an Ash will sometimes—I never saw one—have leaves without a terminal leaflet. This is an Even-Ash, as the common tree is an Odd-Ash; and the former is sought for by young aspirants, who place a leaf inside their shoe, and thus secure a sweetheart.

> "Find even-leafed Ash, and even-leafed Clover,
> And you 'll see your true love before the day 's over."
> From Notes and Queries, ii. p. 259*.

20. *Vinca minor.* The Periwinkle. In woods or deans, planted out, but in many places quite naturalized. May, June.

371. Erythræa centaurium. Common Centaury. Dry banks, not uncommon, and scattered over the district. It is a pretty plant flowering in summer and autumn.

372. E. littoralis = Chironia littoralis, Bot. Guide North. ii. p. iii. = E. linarifolia.—D. On Ross links; and on Holy Island.—N. On the links S. of Bamborough Castle. June, July.—"Erythræa littoralis, I think, must be considered a good species; it is scattered over several hundred acres in Holy Island; and though I met with many gigantic specimens, still the peculiar shape of the leaf and mode of growth were retained, while Erythræa centaurium grows on the sandy sea-beach near Tynemouth, without being altered by situation."

---

entail,—and the Ha' has gone to a stranger in the land. The "dead house" of the Johnstons of Hutton-ha—Border-men—is in the parish church-yard, and participates their fallen fortunes; and the old flagged roof of it is actually made forest with a group of small Ash-trees!

* In the book quoted, it is "odd-leafed Ash," but this must be a mistake, for there could be no difficulty, and consequently no luck, in finding such a leaf.

Winch in Memoir and Corresp. of Sir J. E. Smith, i. p. 517.—Winch sent the specimen figured in English Botany from Holy-Island (Fox's Synop. of the Newcastle Museum, p. 264); and Dawson Turner, who first published the plant as a distinct species, did so "in compliance with the opinion of Mr. Winch," and of Mr. Brodie, for he had not been able to satisfy himself with respect to the validity of its specific characters. Turn. and Dillw. Guide, ii. p. 469.—There seems to be a growing conviction that Mr. Turner was right, and that E. centaurium and littoralis are merely two states of one species. Hooker's Brit. Flora, and Rep. Bot. Soc. Edin. 1837, p. 59.

373. GENTIANA AMARELLA. Trans. Bot. Soc. Edin. i. 60. D. Links below Scremerston; and on Holy Island.—N. Links S. of Bamborough. Ancroft and Doddington moors.—B. Sea banks below Lamberton Shiels, A. A. Carr. Aug.

374. G. CAMPESTRIS. B. Found at intervals on the coast from Burnmouth to Fast Castle. On Coldingham moor, and frequent throughout the Lammermoors. Birgham Moor.—D. Banks beyond Spittal; and on the links at Goswick. Holy Island. Ancroft Moor, &c.—N. Very plentiful on Cheviot and the adjacent hills. Autumn.

375. MENYANTHES TRIFOLIATA. Med. Botany, ii. pl. 85.—**Buckbean.**—Marshes and bogs, especially in moors, common. June, July.—An infusion of the root and leaves is, not so often as formerly, used by the common people in stomach complaints. It is, perhaps, too much neglected by the faculty. See Correspondence of Ray, p. 319.

376. CONVOLVULUS ARVENSIS. **Wild Convolvulus: Bindweed.**—Not common. B. On the Bank of the Pier-road; and on the Ramparts, where it may be found with white flowers. Gravel-pit on the Ayton-road seven miles from Berwick, A. A. Carr. Fields N. of Eyemouth, G. Henderson. About Birgham, Ednam, and Nenthorn, Dr. F. Douglas.—D. Fields opposite Spring Gardens. Holy Island, Dr. F. Douglas. About Bamborough. June, July.

21. *C. sepium.* **The Convolvulus.**—B. Naturalized and abundant in hedges on the Ladykirk estate*.—D. About West Ord. July, Aug.

* "The earliest, and if I mistake not, the only entire example of a Third-pointed building in Scotland, is the parish church of Ladykirk, on the banks of the Tweed, built by James IV. in the year 1500. It is a somewhat stiff and formal structure externally, betraying the introduction of an unfamiliar style. In the interior, however, the features of the older native models predominate, and the plain single vaulted arch is especially remarkable in connection with other details of a style, which was wont, in the hands of the southern architect, to expend its utmost exuberance in pendants, bosses, and fan-tracery on the groined roof." Wilson, Archæology of Scotland, p. 634.—A lamentable parsimony has greatly injured the internal appearance of this interesting church.

377. Cuscuta epithymum. Babington in Trans. Edin. Bot. Soc. ii. 97 & 199.—N. On the moors above Yevering. During a walk from Yevering to Heathpool linn, I filled my box with different plants, and on examining these at home, a single specimen of this Cuscuta was found amongst them.

378. Echium vulgare. Lightf. Fl. Scot. 136.—Viper's Bugloss.—Waste grounds, frequent. Abundant on many parts of the Tweed banks, as above the Union bridge and about Coldstream; and on the Whiteadder, as about Hutton-hall, and Edington mills, and Chirnside bridge, &c. Scattered otherwise over our district, where it attracts notice and admiration from the beauty of its flowered spikes.—"About Melross-Abbey, and some other places, I observ'd what I apprehend to be only a variety of this; it differs chiefly in having the branches more divaricated, and the stamina nearly twice as long as the flower. Perhaps this is the Echium anglicum, Huds. Fl. Ang. p. 70." Lightfoot.—This variety I have seen gathered on Gaitheugh above Dryburgh; and I have gathered a fine white-flowered variety on the Whiteadder below Whitehall. July.—The flowers are much frequented by the humble-bees.

379. Lithospermum arvense. Corn-fields, common. June.

380. L. maritimum = Mertensia maritima = Steenhammera maritima. Oyster-plant.—D. Observed by Thomas Willisell, in 1670, "near a water-mill between the Saltpans and Berwick." Ray's Corresp. p. 61. "By the salt-pans between Barwicke and the Holy Island," T. Johnson in How's Phy. Brit. p. 36. Ray visited Berwick, July 24, 1671, when he appears to have gathered this fine plant "at Scrammerston mill, between the Salt-pans and Barwick on the sea-beach, about a mile and a half from Barwick."—Wilson would lead us to suppose that there were two distinct stations for it on this shore: "At Scrimmerston mill, between the Salt-pans and Berwick. On the sea-beach about a mile and a half from Berwick." Syn. Brit. Flora, p. 80. —There is obviously, however, only one station indicated in these notices, and that is the one discovered by Thomas Willisell. There are no Salt-pans now, nor any mill there; but the names remain to tell the story of a manufacture which has long ceased to be. The habitat is as clearly defined as it was in Ray's time; and I had so frequently searched for the plant unsuccessfully, that I concluded it had followed the fate of the Pans and the Mill. In the spring of 1845, however, my daughters found a single vigorous plant on the spot; and unfortunately rooted it up before they had ascertained that no other grew there. I do not despair of its re-appearance. B. Lumsden shore, plentiful, A. A. Carr. In considerable abundance among the shingle on a low part of the shore between Dulaw and

30. Villarsia nymphæoides.—B. In the mill pond of Foulden-New-mains, G. Henderson, where it was planted by the worthy gardener of the proprietor, and who told me that he procured the plant from Dunse-Castle lough. It has since been extirpated. In the Hen-pow of Dunse-Castle, I presume, it is still an abundant ornament.

Redheugh, J. Hardy. On the shore at the mouth of the Pease-burn, Rev. J. Baird; whence it appears to have "now disappeared, although it still grows abundantly two miles east from the Pease-dean." J. Hardy in Ann. and Mag. N. Hist. Ser. 2, iii. p. 152.—"It is one of the most beautiful indigenous plants of Great Britain. Its undulated glaucous leaves, contrasted with red and blue flowers, are extremely ornamental to the barren shores where it grows, and readily discover the plant to any curious observer." Lightfoot.—The taste of the leaves is singularly like to that of oysters.

381. MYOSOTIS PALUSTRIS. Forget-me-not.—Frequent on the rushy margins of ponds and sluggish waters.

> "The Forget-me-not on the water's edge
> Reveals her lovely hue,
> Where the broken bank, between the sedge,
> Is embroider'd with her blue."—NOEL.

It grows freely, and with unhurt beauty, in the garden, and has received less attention from the amateur florist than it deserves. Captain Carpenter picked a white variety near Cornhill. Summer.

382. M. REPENS. Berw. Fl. ii. 274 = M. secunda, Murray, North. Fl. 115.—Boggy places on moors, frequent. Mr. Don of Forfar had distinguished this as a species so early as 1810. Summer.

383. M. CÆSPITOSA. Watery places and ditches by road-sides, on a light soil, not uncommon. July.

384. M. SYLVATICA. In woods. B. Langton woods, Rev. Thos. Brown. Banks of the Tweed above Dryburgh.—D. Wooded banks of the Till below Etal. May, June.

385. M. ARVENSIS. Cultivated fields and in woods, very common. The woodland form is frequently mistaken for the preceding species. Summer.

386. M. VERSICOLOR. Heaths, earth-capt dikes, and sometimes in moist meadows. In light fields, when in their second year of grass, it is frequently an over-abundant weed. April–June.

387. M. COLLINA. Trans. Berw. Nat. Club, ii. 346. Rare. B. On the south side of the foot of Dunglass burn: abundant near the quarry at Old Cambus, J. Hardy. Sea banks north of Burnmouth. May.

22. *Anchusa sempervirens*. Lightf. Fl. Scot. 133.—In its habitats this plant is quite naturalized, and in most is evidently the outcast of

---

31. Symphytum asperrimum. Prickly Comfrey.—An experiment made to cultivate this plant for fodder, in the centre of Berwickshire, was not successful. It may be found occasionally in gardens and shrubberies.

32. Borago officinalis. Borage.—A very rare and unsettled straggler in our district. It was probably cultivated, by the monks and herbalists, in our feudal times, as a cordial and medicinal herb; and the plant that now and then appears, in some rubbishy place, may be from a seed dropt in the soil then, and now fetched by accident within the influences of its life.

the garden; but in Dunlass dene, where it was noticed by Dr. Parsons previous to 1772, it looks like a native denizen, growing intermingled with Cardamine amara, Lychnis dioica, &c. B. On the road-side at Mordington church. Roadside between the village of Reston and Reston-Mains; and on the bank at the head of the "Valley-brae" as you go from Reston to Coldingham, G. Henderson. At Belville and Hassington in Eccles parish; and on hills to the north of Hume-Castle, Dr. R. D. Thomson. Very fine on the Preston road near Dunse. May, June.

388. LYCOPSIS ARVENSIS. Bugloss. — Corn-fields, frequent. June, July.

389. SYMPHYTUM OFFICINALE. Comfrey.—Unfrequent. B. Side of the Whiteadder about half a mile from its mouth, with purple flowers,—a variety which constitutes the S. patens of Sibthorp and Abbot, Fl. Bedford. p. 42. Dunglass dean, Rev. A. Baird. Banks of the Blackadder near Kyloe, and on the banks of a streamlet near Ramrig. Post-road near Purvis-Hall, Miss A. Hunter. D. In a plantation at Low-linn, sparingly, H. Gregson. June.

390. S. TUBEROSUM. Side of the Whiteadder half-way between its mouth and the bridge; near Hutton-hall mill; and near Whitehall. Westruther. June.

391. ASPERUGO PROCUMBENS. Madwort.—Ray found this plant "in the Holy-Island," where it was re-discovered by Mr. G. R. Tate in July 1850. It still loiters amongst rubbish at Bamburgh Castle, whence specimens have been sent by Miss Nivison, R. C. Embleton and G. R. Tate. July.

"This first king of the Northumbrians (Ida) built the castle of Bamborough on the sea-coast over against Fern Island, in a situation very strong and conspicuous; and in honour of Bibba, his queen, gave it the name of Bibbanburgh, which, in progress of time, was afterwards contracted into the name it now bears." Ridpath's Bord. Hist. p. 15.—The reader may follow the history of this "royal city," as Bede tells us it was, in Surtees's noble History of Durham; and he will find shorter, but interesting notices of it, in Pennant's Tour in Scotland of 1769, and the Quart. Review, xxxix. p. 398.—

---

33. Solanum nigrum.—In 1832 Dr. R. Dunlop found numerous specimens on the ballast behind our Pier; but, in 1834, one specimen only could be got there, and the plant has since disappeared. Introduced with seeds into the garden at Foulden-house, it has become a weed, and as such I saw it there in 1847.

34. Datura stramonium. Stramonium.—A plant occasionally strays from the garden to waste ground near it, blooms a year, and disappears. It is a native of the East Indies, and owes its present wide distribution throughout Europe to the Gipsies, who used the seeds medicinally. Willdenow, Princ. of Botany, p. 419.

35. Atropa belladonna. Deadly Nightshade.—There is a specimen in Mr. Carr's herbarium, gathered on the "side of a stream above Horncliffe, July 1829."

Mr. Surtees, writing in 1814, says of Bambrough Castle that it is "a truly grand impressive place as ever I saw in my life. The walls, of very great extent, rise from an isolated crag, and the only road up is hewn through the rock. The Farne Isles are all scattered in front, and the sea-view unbounded." And again—"The castle is the grandest thing conceivable, but the country is abominably bare and uninteresting—all one regular declivity to the coast, and all in tillage, and literally not a tree in sight." Memoir, p. 359.

392. CYNOGLOSSUM OFFICINALE. Hound's-tongue.—Waste grounds. B. On Coldingham shore; and about the onstead of Halydowne. Sea-banks at Lumsden dean, J. Hardy. Between Reston and Covey-heugh, A. A. Carr. It has disappeared from the banks of our old Castle within my recollection.—D. Links from Scremerston southwards; and about the Signal-house on Ross point. Holy Island. N. About Bamborough, Dr. F. Douglas. July.

393. HYOSCYAMUS NIGER. Henbane.—Waste grounds:

> "On hills of dust the Henbane's faded green,
> And pencilled flower of sickly scent is seen."

Around Berwick, but it has decreased much of late years. When the Castle banks were disturbed during the operations in making the Railway, the Henbane appeared in profusion; and it is still plentiful on those parts which are yet naked. B. It grows about Burnmouth; on the sea-shore at Fairnyside; and near Eyemouth and Coldingham shore. Mr. Carr found it on the banks of the Eye below Reston; and Mr. Henderson by Allanbank mill, near Allanton. North bank of the Tweed opposite Littledean Castle, Dr. R. D. Thomson. Hirsel woods.—D. Holy Island.—R. About the ruins of Roxburgh Castle, Dr. F. Douglas.—N. Banks of the Glen at Lanton.—June. —"In the garden of Mr. Anderson, surgeon in Allanton, there is now growing a plant of H. niger of the following extraordinary dimensions and fecundity. It is 5 ft. 4 in. in height, and in breadth its branches spread out to the same extent. It bears above 1000 seed-vessels, and if we reckon each of these vessels to contain 300 seeds, (which is a moderate computation, as I counted the seeds of one of the pods, not of the largest size, and found it to contain 326 seeds,) the amount of the whole will be 300,000!" G. Henderson.

394. SOLANUM DULCAMARA. Nightshade: Bushion-Berry.—In thickets in deans, rare; more frequent in hedges and in avenues. It grows well within the walls of Berwick. June, July.

15. S. tuberosum. Ann. and Mag. N. Hist. xvii. 154.—The Potato: the Tatee.—Extensively cultivated, in numerous varieties. Lord Kaimes introduced the plant to Berwickshire husbandry in 1746; but for some years the novelty made slow progress. Eighty years ago the mistress of the farm was accustomed to count the number she gave out from her store for family consumption, lest any should have been used by the servants! See also Quart. Rev. lxxxii. p. 383.

395. Lathræa squamaria. Berw. Fl. ii. 284. Edin. Journ. Nat. and Geogr. Sc. iii. 385.—Rare. B. In a wood above the Retreat at Abbey St. Bathans.—R. Banks of the Tweed below Littledean Tower, Dr. F. Douglas. April.

396. Veronica serpyllifolia. Pastures and road-sides, on a clay soil, or in damp places, common. The var. β. humifusa was found by Mr. Winch on Cheviot; and I have a specimen gathered in this locality by Mr. G. R. Tate in Aug. 1851. June.

397. V. scutellata. In boggy places, not uncommon. Of most frequent occurrence at the sides of runlets on our moors. A graceful species. Summer.

398. V. anagallis. Ditches, frequent. D. Abundant in the ditch in Tweedmouth fields.—B. In Langton burn below Gavington. July.

399. V. beccabunga. Brooklime. Ditches and water-courses, common.—Summer.—A beautiful variety, with immaculate white flowers, grows in a ditch on the road-side at Norham-E.-mains, and also near Felkington in a similar station. In this variety the bracteas are equal in length to the pedicels of the flowers, while they were considerably shorter in the blue-flowered plants that grew close at hand; but blue-flowered plants in other sites have often bracteas longer than the pedicels. There is also a pink-flowered variety related to V. anagallis. This I find occasionally intermixed with the plant in its ordinary state in localities which have a sandy bottom.

400. V. officinalis. Dry banks, heaths, and barren places in woods, common. A dwarf variety with flesh-coloured flowers grows on rocks in Winden dean. Under the shade of fir-trees the flowers become pale or almost white.

401. V. montana. Lightf. Fl. Scot. 74.—Deans, frequent. B. "In the woods at Dunglass near the river," Dr. Parsons. Langton woods, Rev. T. Brown. Redpath dean.—R. Woods at Pinnaclehill near Kelso, Dr. F. Douglas.

402. V. chamædrys = V. bibarbata, Stokes, Bot. Comment. i. 56.—Germander-Speedwell. Milk-maid's-eye: Eyebright*: and often miscalled the Forget-me-not, albeit its ephemeral and deciduous blossoms are not false types of that friendship which the world swears shall be life-lasting. The plant is common on road-sides, in pastures, and in deans, flowering with the Hawthorn, which it rivals in beauty, although that beauty has been less celebrated in song. Yet it has not been overlooked: thus Ebenezer Elliott, under the name of "Eyebright,"—

---

* "There bloom'd the Strawberry of the wilderness,
The trembling Eyebright show'd her sapphire blue."
Wordsworth. Memoirs, i. p. 177.

"Blue Eyebright! loveliest flower of all that grow
In flower-loved England! Flower, whose hedgeside gaze
Is like an infant's! What heart doth not know
Thee, cluster'd smiler of the bank! where plays
The sunbeam with the emerald snake, and strays
The dazzling rill, companion of the road
Which the lone bard most loveth, in the days
When hope and love are young? O come abroad,
Blue Eyebright! and this rill shall woo thee with an ode."

It was a beautiful May morning,—the 1st of May in the year of Grace forty-four,—when the "Club" assembled at Etal*, the loveliest village of our plain; and so gay and happy with its parterres and green lawn, and broad walks, and trees, and ruins, and the Hall, that I ween a prettier village may not well be seen anywhere†. It does one good to visit that florulent village; and the zephyr, full of fragrance, that came upon us, sunning from a thousand blossoms, gave a whet to the appetite, when the call to breakfast hurried us from these aërial essences to a substantial fare. The hearty and social meal over, we again sally forth to saunter a-field, amid such wildnesses as modern agriculture permits,—in meadows and woods, in brakes and deans, and

"By shallow rivers to whose falls
Melodious birds sing madrigals."

And so away—all chatting—few listening,—the admiration of every ruddy-cheeked lass, and the wonder of every Colin Clout,—a queer group, as pied in dress, and cast in as many characters, as a strolling

* Mr. Selby has given an interesting account of this meeting in the Transactions of the Club, ii. p. 86.

† "To see what a village in our northern regions may be, and ought to be, go to Etal. There you will find flower-gardens in perfection—with the village green as smooth as a lawn in the best-kept pleasure-ground, and the rustic benches under the spreading branches of elm and sycamore. One fine tree, with the seat around its trunk, is conspicuous, with an inscription, which shows the considerate kindness of the noble family, now residing in the mansion-house—'Willie Wallace's Tree.' I believe the old man is still alive in whose honour the tree is thus devoted to longevity. But it is to the flower-gardens in front of the cottages at Etal to which I am anxious to direct attention, because, as a French author says, 'It is the cultivation of flowers which announces a change in the feelings of the peasantry. It is a refined pleasure making a way for itself through grosser materials, like the first opening of the eyes,—it is the perception of the beautiful,—a new sense awaking in the soul. Those who have wandered through country scenes can testify how the rose-tree at the window, or the honeysuckle at the door of a cottage, always promise everything that is delightful within, and a welcome to the weary traveller; for the hand that cultivates flowers never shuts it at the prayer of the destitute or the wants of the stranger. In all countries women love flowers, and make bouquets of flowers, but it is only in the midst of comfort that they conceive the idea of adorning their dwellings with them.'"—Rev. Dr. W. S. Gilly. Peasantry of the Border, p. 13. 1841.

company ; the clerical suit of sober black mellowed and relieved by the freckled and chequered sporting jackets that suit so well this holiday. The village is left; and the lane leads us by an abrupt turn, down to the rat-rat-rattling mill, all grey and dusty, and quite a picture, with the lusty miller leaning on the half-shut door, eyeing us complacently, while the two cats that bask at his feet seem to be half-alarmed at the novel route. How hurriedly the water runs from beneath that heavy revolving wheel, as it were glad to have escaped from thraldom and from under the wheel of torture*; and the eye seeks relief from the painful image in the caul beyond, over which the river rolls itself, in a round and oily wave, into the linn beneath, where, fretted by the fall, it ruffles itself into a white foam, and murmurs, not loud and scarcely displeased, at the accident and delay! After a short whirling play, the water goes on in a smooth and placid flow, that, after a space, quickens into a tumbling, brattling stream, as if suddenly become conscious that it had dallied here too long, and must make up the lost time. We take the hint, and we start to follow the river, leading by a pathway, which the inscription, carved on a rock in rustic fashion, informs us was made by my Lord Frederick Fitzclarence,—not for our ease, who are all too regardless of a trespass. So onwards we saunter, changing companions as whim and chance dictate, now in front,—now lost in the rear,—now plucking a new variety of flower,—and now entrapping the gorgeous insects that flit about everywhere. The air is full of life, but 'twas unlucky to be so engaged just at this particular moment, for I cannot participate in that laugh which some story of Douglas' has provoked, and I lost the fun too for the sake of a fly that I have not captured†! Onwards again—and now the wood is passed, when we cross, with a quicker pace, the open fields, and scarcely tarry at the queer little house and mill which is sunk as it were in the bank, over which the road is carried. But we greet the good woman who stands there, with her infant in her arm, all a-wondering at the throng; and our greeting is returned with a cheerful smile that bespeaks the good woman to be happy with her lot. And the opposite bank, covered with the bonnie broom, is sunny, and alive too, with yur-yur-yurlings, and chirps, and

* "It flows through Alder banks along
Beneath the copse that hides the hill;
The gentle stream you cannot see,
You only hear its melody,
The stream that turns the mill.
Pass on a little way, pass on,
And you shall catch its gleam anon;
And hark! the loud and agonizing groan
That makes its anguish known,
Where, tortured by the Tyrant Lord of Meal,
The Brook is broken on the Wheel."
SOUTHEY. Works, p. 126.

† "One should take care not to grow too wise for so great a pleasure of life as laughter."—Addison.

melody; and the river is alive with the leaping trout and the up-and-down flies,—and it plays in its course with alternate streams and stills, rapids and circling deep pools,—and the sun shines on all things, living and dead, and we know not what to say but that this is beautiful and fine, and we say this to one another very often, and never dream that we repeat a twice-told tale. Now a precipitous rock, partly quarried, and clothed with flowering sloes, with a golden whin or two, with hazel and budding hawthorn, with honeysuckle clambering amidst the shrubs, and with ivy that festoons the dark rock, and much varied herbage, draws us to remark with what successful art nature has grouped and mingled all this heterogeneous furniture, producing a very pleasing and picturesque effect with materials, which, separately viewed, are of a mean and regardless character. Turned by this rock, the river now runs in a rougher channel, banked on one side by a green pasture slope, while the steeper bank, along whose base we travel, is wooded with almost impenetrable shrubbery and trees of minor rank, where the varied botany that luxuriates in their shelter calls us to frequent admiration. The primrose and violet banks, the trailing ground-ivy with its modest flowers, the tall and graceful rush, the star-wort with its blossoms of vestal purity,—are all beautiful, and although often seen before, their beauty comes fresh and new upon us. I do love these wild flowers of the year's spring. And on we stroll—almost palled with sweets, and almost weary with loitering,—so that it is felt to be a relief, when a sylvan dean, that opens aside on our path, tempts us to trace its unknown intricacies and retreats. It is a dean without a name, but sunny and odorous, and silent. Here the brae glows with whin and budding broom,—there copsed with grey willows and alders, and every wild shrub and trailer;—here a gentle bank with its sward pastured by a lamb or two and their dams that have strayed from the field above,—while opposite, a rough quarry contrasts, yet not disturbs, the solitude, for the prickly briars and weeds, that partially conceal the defect, tell us that it has been some time unworked. Now a sloe-brake gives shelter to every little bird which is seen flitting out from its shelter stealthily, and stealthily returning; and the Lark sings and soars above; and the Blackbird alarms the dean with its hurried chuckle. And as we near the top, we find a grove of elms, and poplars, and willows, which hang partly over a little shallow linn formed by a rill that has fallen in a gentle stream over a moss-grown shelf of rock; and then the water steals, more than half-hidden, down the grassy bed of the dean. The quietness of the place begins to influence us all,—the conversation assumes a subdued tone, and some are evidently meditative, when the current which the thoughts of some young dreamer amongst us has taken, is marked out visibly by the question that is asked,—"What is the Blewart of Hogg?"—No one—nor old, nor young—has thought the question abrupt or out of place, but we enter upon it as if the scene had suggested it, and made our young friend its spokesman.—"What is the Blewart in Hogg's beautiful pastoral?"—"Why the Blewart must be the

same as the Blaver or Blawort—the Centaurea cyanus."—"Nay! that cannot be: the Centaurea is a corn-field weed,—an autumnal flower,—nor is it a sleeper at eventide. Let us hear the verse:"

"When the Blewart bears a pearl,
And the Daisy turns a pea,
And the bonnie Lucken-gowan
Has fauldit up her ee,
Then the lavrock frae the blue lift,
Draps down, and thinks nae shame
To woo his bonnie lassie
When the kye comes hame."

"Very well! my good fellow,—the Blewart grows there at your feet, and its first blossoms are giving blue eyes to that sunny hillock. The Blewart is the Veronica chamædrys: its blossom is the pearl, when at eve the flower has closed, and turned upon us the pale glaucous underside of its petals: it is the companion of the Daisy and Lucken-gowan: it is the ornament of the dean without a name."—After a little more light discussion the demonstration appears complete; and we feel that there is more interest, and as much utility, in settling the nomenclature of our pastoral bards as that of old herbalists and dry-as-dust botanists.

I have here attempted to sketch, slightly, a meeting of "our Club*," and one of its rendezvous, and to indicate the nature of the discoveries and discussions with which we beguile the morning walk; but I feel that the attempt is weak and ineffective. Yet on my return from such a meeting, the conviction has often been forced upon me that the poet was right when he said—

"And he is oft the wisest man
Who is not wise at all."

403. VERONICA HEDERIFOLIA. Mother-of-Wheat—a name which implies that the plant grows best in a soil fitted for the cultivation of that grain. It is an idle weed, which begins to flower early in March, and continues to flower throughout the year. The seminal leaves have a close resemblance to those of the Galium aparine.

404. V. AGRESTIS. Cultivated fields, gardens, and waste grounds, common. Summer.

405. V. POLITA. In similar places to the preceding; and the two frequently grow together.

* Dr. Hume has given the rules of our Club in his "History of the Learned Societies of Britain" (See Trans. Berw. N. Club, ii. p. 204), and there is a friendly notice of us by Mr. Ralph Carr in his first Address to the Tyneside Naturalists' Field Club, Trans. i. p. 6.—On a future occasion I shall give a detailed History of the Club. In the mean time, I may remark that its success has been the result of some negatives. Like the "Friday Club," celebrated in Lord Jeffrey's Life, "We were troubled by no written laws, no motions, no disputes, no ballots, no fines, no business of any kind, except what was managed by one of ourselves as Secretary." i. p. 151.

23. *V. Buxbaumii* = V. filiformis, Berw. Fl. i. 225. pl. 1. Gray Brit. Pl. ii. 734 = V. agrestis β. pedunculata, Stokes, Bot. Comment. i. 63. Edin. Journ. Nat. and Geogr. Sc. i. 377.—Naturalized in a few places, but apt to be lost for a season from the shifts of crops in agriculture. B. In a shrubbery at Whiterig in Ayton parish. A little to the west of the pleasant farm-house of Foulden-burn, G. Henderson.—N. In a corn-field at Chatton abundantly, Sept. 1846. It is a weed occasionally in gardens.

406. V. ARVENSIS. Gravelly and light soils, common. Often found on earth-capped dikes. May.

407. BARTSIA ODONTITES = Euphrasia odontites. Ball in Ann. and Mag. N. Hist. Ser. 2. iv. 29.—Corn-fields and new pastures, and road-sides in moorish districts; the common and unwholesome produce of a cold clay soil. July, Aug.

408. EUPHRASIA OFFICINALIS. Smith's Pl. of Kent, 32.—Eyebright.—Heaths and barren pastures. Often in deans on sunny banks. The variety (β. exigua, Edmons. Fl. Shet. 19) with small pretty purplish flowers is frequent on every moor. Summer.

409. RHINANTHUS CRISTA-GALLI. Yellow-Rattle. Very common in cultivated fields with a muirish soil; and on moor pastures. From the shape of the capsules the plant is called Gowk's-sixpences; and as the capsules rattle when in seed, it is also called Gowk's siller, being, like the fool, unable to conceal its wealth. June.

410. MELAMPYRUM PRATENSE. Hooker Brit. Fl. (1830) i. 285.—Deans and natural woods, abundant wherever it occurs, and it is not uncommon; as in the woods B. about Houndwood and Penmanshiel; on the wooded banks of the Whiteadder at Abbey St. Bathans; and of the Monnienut burn, &c. The variety β. montanum (=M. montanum, Berw. Fl. i. 136; ii. 284: and Edin. Journ. Nat. and Geogr. Sc. i. 377) grows profusely on Cheviot. What seems to be an intermediate state may be gathered on Hepburn hill at Chillingham, and on Yevering-Bell. July.—The figure of M. pratense in Eng. Bot. ii. 113, does not express the habit of the plant as it is found with us.

As there is reason to suspect that the genera Bartsia, Euphrasia, Rhinanthus and Melampyrum are parasitical, and draw their nourishment from the roots of the plants and grasses they grow among, it becomes more imperative on the cultivator to attempt their eradication. See Ann. and Mag. N. Hist. xx. p. 209; and Ser. 2. ii. p. 294.

411. M. SYLVATICUM. Rare. B. Banks of the Dye above Longformacus, Rev. T. Brown. July.

412. PEDICULARIS PALUSTRIS. Deadman's Bellows. Marshy and boggy places, especially on moors, common. July.

---

36. Rhinanthus major = R. angustifolius.—N. "I also observed it this year, 1723, amongst the corn nigh Westnewton, in Northumberland, upon the borders of Scotland." Dr. Richardson. It has never occurred to me.

413. P. SYLVATICA. Heaths, common. A white-flowered variety has repeatedly occurred to us. July.—From this and the preceding, the mountain bees extract a large share of their honey.

414. SCROPHULARIA NODOSA. Woods, deans, and hedges, frequent. It is fond of briery brakes, and often hides midst brushwood on the margent of a burn. June, July.—The unattractive flowers are so remarkably haunted by wasps as to attract common observation, J. Hardy. "Flores vesparum deliciæ." Linnæus. The honey-bee also prefers it.

415. S. EHRHARTI. Stevens in Trans. Bot. Soc. Edin. i. 57. Dr. Bell Salter in Phytologist, 1852, p. 740.—Rare. "Berwick," Dr. P. W. Maclagan. I do not remember the exact locality. I have gathered the plant in the dean between Linthaughlee and Houndlee on the Jed. Aug., Sept.

416. S. AQUATICA. Wet places. B. Side of the Whiteadder in Tibby Fowler's glen,—an interesting locality from being the presumed scene of the old ballad, beginning

"Tibby Fowler o' the glen!
A' the lads are wooing at her."

In the bed of the Eden at Nenthorn; and in the grounds of Newton Don. July, Aug.

417. DIGITALIS PURPUREA. Withering's Memoirs, ii. 110.—Fox-globe or rather Folks-globe, viz. the gloves of the "Good People": Witches' Thimbles: Dead-men's bells: Scotch Mercury: Wild Mercury.—Common. Abundant in the north-east and west of the county of Berwick in the greywacké district; less common, and even rare, in the sandstone districts. Abundant on many parts of the Cheviot hills, where a specimen with white flowers may be occasionally picked.—B. With white flowers on Ewieside, in the Pease dean, and on Penmanshiel moor, J. Hardy. "Banks of the Whiteadder at Tod-heugh quarry; and on the high bank, with white flowers, just above the miller's cottages at Hutton-mill. This plant is very rare in the district in which these stations occur," G. Henderson. Often very ornamental in deans, and on rocky ledges that overhang the deep pools of our brattling burns:—

"I 've lingered oft by rocky dells,
Where streamlets wind with murmuring din,
And marked the Fox-glove's purple bells
Hang nodding o'er the dimpled lin."

This plant is one of the powerful ingredients used as "bath" for sheep, but some shepherds object to its use, for they say that it blackens the wool very much. The leaves afford a medicine of great energy and value; and before this was known to physicians, the Fox-glove or Fox-tree was frequently administered by the bold country quack, not always with impunity. See Dalyell's Darker Superstitions, p. 113.—About Greenlaw, the plant, from its stateliness, bears the elegant name of the King's elwand:—

"Straight as the Foxglove, ere her bells disclose."

The flowers were once applied to the purpose of caps by the troops of Fairies that did inhabit our deans and sylvan retreats: now our little girls glove their fingers with them, putting them on the top of each other in a pyramid to overflowing, and they call them **Ladies'-thimbles**. Boys inflate them by blowing into the bell, and then they crack them by a smart stroke. They also suck the honey at the base of the flower. Tempted by this nectar, the Bee enters deep within the corolla, where, becoming imprisoned, it buzzes about with vexation and rage.

The Foxglove, pronounced to be "the most stately and beautiful of our herbaceous plants," could not, of course, escape the eye of Wordsworth; and he has given in "the Prelude" to "Retrospect," p. 223, a correct enough portrait of the plant in its last stage, or old age.

> "Through quaint obliquities I might pursue
> These cravings; when the Foxglove, one by one,
> Upwards through every stage of the tall stem
> Had shed beside the public way its bells,
> And stood of all dismantled, save the last
> Left at the tapering ladder's top, that seem'd
> To bend, as doth a slender blade of grass,
> Tipp'd with a rain drop. Fancy loved to seat,
> Beneath the plant despoiled, but crested still
> With this last relic soon itself to fall,
> Some vagrant mother, whose arch little ones
> All unconcern'd by her dejected plight,
> Laugh'd, as with rival eagerness their hands
> Gather'd the purple cups that round them lay,
> Strewing the turf's green slope."

418. ANTIRRHINUM LINARIA = Linaria vulgaris. **Butter-and-Eggs**.—Borders of fields and gravelly banks, frequent. It appeared in many places, previously unknown to it, on the cuttings made for the railways. Summer.

419. A. MINUS = Linaria minor. Rare. D. In waste ground about the Union Bridge, and if the botanist miss the plant, he will not lose his pains by turning his examination on this beautiful structure,—the first of its kind erected in this country. It was opened July 19, 1820. See Border Table Book, iii. p. 213.—B. Below Coldstream Bridge, R. C. Embleton.—R. "Aill Water, Roxburghshire." Arnott. Brit. Fl. p. 301.

24. *A. cymbalaria* = Linaria cymbalaria. This pretty trailer has established itself in so many gardens, on their walls and out-buildings, that its eradication would be now difficult, and certainly not desirable. In the garden at Newwaterhaugh it gives much interest to a dull partition wall; and in one of its tufts a hedge-sparrow found a fit place for the concealment of its nest. It is a favourite window flower with cottagers, who know it as the **Mother-of-thousands**.

420. VERBASCUM THAPSUS. Waste grounds, rare. N. "On the bed of Till near Wooler," Winch. Banks of Wooler-water near Coldgate-mill, Jas. Mitchell; and about half a mile above Middleton,

W. Baird.—D. Near Twizell castle, R. D. Thomson.—B. Hirsel woods. Banks of the Leader at Cowdenknowes, Sir W. Jardine. Wood near Dryburgh, F. Douglas. July.

421. Lycopus europæus. Rare. R. Sides of Yetholm and Linton lochs.

422. Salvia verbenaca. Wild Clary.—Walker's Oxford Fl. 9 : Stokes, Bot. Comment. i. 152.—B. Banks of the Old Castle, abundant.—D. Near the ruins of the Priory and about the vicarage in Holy Island. Norham Castle.—An infusion of the dried plant is used by a few old people in lieu of tea. It used to be gathered annually, on the Castle bank, by an old man, who cut the stalks so as to leave a little on one side undivided, by which means, he said, the strength of the herb was better preserved in drying. From its habitats we are led to infer that the Salvia had been cultivated, in days of yore, as a medicinal herb. Its reputation "in helping the diseases of the eies" procured it the name of Oculus Christi; and "the leaues," says Gerarde, "are good to be put into pottage or brothes among other potherbes, for they scatter congealed blond, warme the stomacke, and helpe the dimnesse of the eies."—Such an herb was likely enough to be early cultivated, and may stand as the representative of a tribe distinguished for warm aromatic virtues, with a somewhat emollient or mucilaginous quality, as Marjoram, Horehound, and Mint. Camden would lead us up to Roman times in search of their introduction, on one of those small traditions which the antiquary loves to believe, and loathes to cross-examiue. "I purposely omit the vulgar reports," says the Antiquary, about the Picts Wall, "but cannot conceal from the reader this circumstance, which I had from persons of credit. A fixed tradition remains in the neighbourhood, that the Roman garrisons on the borders planted here up and down for their own use, many plants good for curing wounds. Hence some pretenders to surgery in Scotland resort here every summer to collect plants, whose virtues they have learned by some practice, and extol them as of sovereign efficacy." Gough's Camden, iii. p. 470. See also Edin. Monthly Journ. of Med. Science for April 1851, p. 344. —Another antiquary gives us a list of the plants which were cultivated in the physic-garden of the Saxon convents; and these were Peppermint, Rosemary, Sage, Rue, Penny-royal, Fenugreek, Cummin, Water-cress, Cornflag, Roses, Loveage, Fennel, Tansy, White Lilies, Kidney Beans, and Savory. Coriander and Poppy were grown in the kitchen garden. Brit. Quart. Rev. Nov. 1851, p. 371*.—

* "What is very remarkable is, that above 300 species of medical plants were known to the monks and friars, and used by the religious orders in general for medicines, which are now to be found in some of our numerous books of pharmacy and medical botany, by new and less appropriate names, just as if the Protestants of subsequent times had changed the old names with a view to obliterate any traces of Catholic science. Linnæus, however, occasionally restored the ancient names." "The Catholic Friend," as quoted in Forster's Encyclop. Nat. Phen. p. xliv.—A more erudite his-

Now certainly there were such gardens with us,—a very large flower-garden at Coldingham previously to 1259; one in Bondington near Berwick in 1307; and another at Bemerside. And Chalmers, who never speaks without authority, adds that, at this period, every house in the towns and villages appears with a garden for raising culinary herbs. Caledonia, ii. p. 310. David the First,—the founder and restorer of almost all our old religious buildings,—improved the gardens belonging to them. Fordun informs us that he paid particular attention to gardens and orchards, "that he might engage his people by his example to the same pursuits;" and the historian likewise represents him "as employing some part of his time, even in the last year of his life, either in planting herbs or grafting shoots." Ridpath's Bord. Hist. p. 86*.

423. MENTHA SYLVESTRIS. Rare. B. In the neighbourhood of Blanerne, abundant, Dr. R. Dunlop.

424. M. VIRIDIS. Spear Mint. B. Side of the Whiteadder above Gainslaw ford, in two or three large patches; and between Allanton and Whitehall. Below Foulden Newtown, in the deep ravine by the side of the little burn, growing amongst Epilobium hirsutum, in a situation very unlikely to have been planted, G. Henderson. Sides of the Eye considerably below Blackburn mill, J. Hardy. On Leader water, Dr. F. Douglas. "Near Dryburgh and Melrose," Professor Balfour. R. On Bowmont water above Yetholm. Aug., Sept.—Southernwood and Spearmint are the favourites in the posy which our herds and hinds, and their wives, carry with them to the church on a Sunday.

25. *M. piperita*. Pepper-Mint. B. By the streamlet below Lamberton Shiels; and on the side of Ale water about a mile above the paper-mill. On the Whiteadder below Allanton. "Near the sea-coast, at the mouth of the burn that runs down from Cockburnspath by Linhead. It was very thriving, but I have no doubt of its garden origin," J. Hardy. "In the wood, near the road-side, west of Houndwood Inn, nearly opposite the foot-path bridge which crosses the Eye to Horseley. This seems to be quite a wild station," G. Henderson. In a ditch on Belchester estate, Miss A. Hunter.—D. In a ditch near the blacksmith's shop at Haggerston, with Sium angustifolium, Veronica beccabunga, &c.

425. M. HIRSUTA. Wild-Mint: Horse-Mint.—Watery places, very common. Autumn.

426. M. CRISPA, Lin.—Trans. Berw. Nat. Club, i. 30. Eng. Bot.

---

tory of monkish botany is much needed; nor do I see how the disputes about certain indigenous and naturalized plants are to be solved satisfactorily without such a history.

* In "Rokesburghe Castle," a metrical romance of the 12th century, by Miss M. H. Ballantyne, and printed for private circulation, David's love of flowers is prettily introduced, and made available to the development of the plot.

Supp. t. 2785.—N. Side of Wooler water, near Coldgate mill; and also about one mile and a half above Langleyford, on the border of a rivulet flowing down from the Cheviot, and near its junction with the Wooler water, James Mitchell*.

427. M. RUBRA. B. In the Tweed near Horndene burn.—N. In the little burn below the Routin Linn, intermixed with M. hirsuta. A plant determined for me by Mr. Babington to be the M. gentilis of Smith, but certainly not distinct from our M. rubra, is found on the sides of the Whiteadder from its mouth, at intervals, to its very source. I find the same on the Tweed, and on Bowmont water near Yetholm. It grows intermixed with M. hirsuta. A plant that more accurately represents M. gentilis I have gathered on Wooler haugh near the Carding mill. Aug.

428. M. ARVENSIS. Corn-fields and new pastures, on a light soil, common. Autumn.

429. M. PULEGIUM. Penny-Royal. Very rare. B. "At the foot of the hedge-bank, after passing Billy-mire, on the way to Auchincrow. This is a doubtful native, but, so far as I know, no human habitation was ever near this spot." G. Henderson.

430. THYMUS SERPYLLUM. Wild Thyme. Dry banks and heaths. It loves an old ant-hill. When it flowers, Flora begins to wear her most variously-coloured dress:—

> "Now the summer is in prime,
> Wi' the flowers richly bloomin',
> An' the wild mountain Thyme
> A' the moorlands perfumin'."—R. TANNAHILL.

July, Aug.—An infusion of the herb is used, rarely, as a sort of tea. The flower is a favourite with bees.

431. ORIGANUM VULGARE. Wild Marjoram. Deans, copses, and the sides of burns, frequent.—"Wild Marjoram grew upon the rocks in great perfection and beauty. Our guide gave me a bunch, and said he should come hither to collect a store for tea for the winter, and that it was 'varra halesome'—he drank none else." Wordsworth. Memoirs, 'Tour in Scotland,' i. p. 222. Aug.

* James Mitchell, Surgeon R.N., was the eldest son of the Rev. Mr. Mitchell, pastor of the Scotch Church in Wooler. Educated to the medical profession, he entered the navy, which he was ultimately compelled to leave from shattered health. He retired to his father's residence, and became an active member of our Club. His presence gave zest to, and heightened the pleasure of, many of our meetings; and his absence there now is mourned. Mr. Mitchell saw much varied service, and I find it recorded that he was actively employed during the American War; and after the disaster which befell our small squadron on Lake Champlain, Sept. 11th, 1814, his conduct received honourable mention in the despatches. "Great credit is due to Mr. Mitchell, surgeon, for the skill he evinced in performing some amputations required at the moment, as well as his great attention to the wounded during the action, at the close of which the water was nearly a foot above the lower deck, from the number of shot which struck her between wind and water."—Dodsley's Register for 1814, p. 218.

432. Teucrium scorodonia. Wood Sage. Deans, and heathy and stony places, very common. July, Aug.—The aromatic scent of this plant proceeds from minute silver-like glands profusely scattered over the inferior surface of the leaves. The withered flower-stalks, with the long racemes of calyces, remain until the ensuing summer. The herb is often given in infusion with medicinal intentions; and they who administer it mistake it for the Horehound.

433. Ajuga reptans. Deadman's Bellows,—a name which it shares with Digitalis, Pedicularis sylvatica, and the Boleti. J. Hardy. —Woods and moist meadows. In dry hilly situations, as on Lamberton moor, the plant becomes hairy. May, June.

434. Ballota nigra. Horehound or Hairhound. Waste grounds. B. Common about Berwick, and also in the neighbourhood of several of our towns and old villages.—D. Norham and Cornhill.—R. Abundant about Roxburgh Castle: Point-walk, Kelso, &c. Dr. F. Douglas.—We have two varieties, but in both the segments of the calyx are broadly ovate with a mucronate point. The one variety has ovate-acute rather small leaves, which often become more or less coloured; in the other variety the leaves are hoary, cordate and rounded, and of a large size. The first is that which grows about Berwick; the second is found at Cornhill and Norham; and the peculiarities probably depend on the proximity or distance of the station from the sea.—May 9, 1851. Saw an old man gathering the Ballota. He called it the Horehound, and said that he mixed the dried herb with his tea, believing it to be a wholesome addition. He expressed a firm belief in its anti-asthmatic virtue.

435. Galeopsis tetrahit. Dae or Deye-Nettle*. Corn-fields, a common weed. Autumn.—The flowers are either reddish, cream-coloured, or white, with a spot on the lower lip variegated with purple and yellow; but in the white variety I have been sometimes unable to discover any trace of the spot.—Labourers in harvest are sometimes affected with whitlows, and they ascribe the disease invariably to the sting of a Deye-Nettle. It is probably the effect of an unnoticed sprain, for the prickles of the Galeopsis are not "venomous." See Eng. Bot. iii. 207. Acting on their own theory, our labourers apply a roasted onion, or a piece of cheese, to suck out the "stang." When in flower the plant is much frequented by the males of the common humble bee.

436. G. versicolor. Corn-fields, a beautiful weed. It is common in all the western parts of our district, growing most freely

---

37. Galeopsis ladanum.—Growing pretty abundantly in a field within a few hundred yards of the Manse of Yetholm, Rev. J. Baird. It had not been observed in this site previously, and it will again probably disappear. Mr. Lees has some good remarks on this interesting subject in the Phytologist for 1851, p. 131.

* Not Day-nettle, as usually written. The name is very old, and seems to be derived from the belief of its injurious effect upon labourers employed in agriculture. See Prompt. Parv. sub verb. Deye.

in light soils, and abounds in fields newly reclaimed from muirs. B. About Huntley and Gordon.—R. About Yetholm.—N. About Wooler; and in fields below Langley-ford. Aug., Sept.

437. LAMIUM ALBUM. White Nettle. Waste grounds, common, flowering in spring and throughout the summer. It is a fine plant, notwithstanding its commonness and the repulsiveness of its habitats. Children go in spring to seek the Golden Lady-birds (Chrysomela fastuosa) upon it. At Dunse the plant is called Sucky-soos. The leaves, "shorn into bits," are sometimes given to young turkeys.

438. L. PURPUREUM. Red Dead-Nettle. Road-sides, gardens, and waste grounds, very common. Spring and summer; and the best specimens for the herbarium may be procured in March. A variety (β. molle, Don. Gard. Dict. iv. 818) with pure white flowers grows abundantly on walls and road-sides about Dunse.

439. L. INCISUM = L. dissectum, With. Bot. Arrang. iii. 527.—Road-sides, frequent in the neighbourhood of Berwick, but I have not often seen it in other parts of the district. The tube of the corolla is naked within and at the base in our plant, which is consequently the true L. incisum of Smith, Koch, &c.

440. L. INTERMEDIUM. Cultivated grounds. My specimens were procured in D. Ord fields; and I have seen it growing plentifully at Millknowe amidst the Lammermoors. Summer. As a British native, the discovery of this species is due to Mr. Tyache. Rep. Bot. Soc. Edin. 1836, p. 27.

441. L. AMPLEXICAULE. In gardens and waste grounds, a common weed. Spring and summer.

442. BETONICA OFFICINALIS = Stachys betonica. Betony. Walker Oxf. Fl. 167.—Deans and copses, not common. B. Sea-banks N. of Dodd's well: banks of the Whiteadder at Whitehall: in Houndwood and Penmanshiel, &c.—D. Haiden and Allerton deans: Kyloe dean: in great profusion in a dean below Fenham Buildings; and at hedge sides, and on the sea-banks, about Fenham; in the wooded bank below Belford on the road to Bamburgh, &c.—N. Ford Wood-end, &c. Autumn.

443. STACHYS SYLVATICA. Dey-Nettle. Woods, and under hedges, common. Gregarious. Exhales a heavy sickening scent. Believed by the common people to sting like the common nettle. July, Aug.

444. S. AMBIGUA. Rare. I have found this in Edmond's dean; and Mr. Hardy finds it in the Pease dean.

445. S. PALUSTRIS. Moist fields and banks of ditches, common. A variety with the leaves shortly stalked is not rare.

446. S. ARVENSIS. Sandy fields, uncommon. B. "Below Lamberton, plentiful," Thompson. Dulaw dean: banks of the Eye and Ale, A. A. Carr. Gardens at Cockburnspath, J. Hardy.—N. About Doddington, Thompson.

447. Glechoma hederacea=Nepeta glechoma. Ground-Ivy: Gruna-Daby. In deans, and under hedges and old walls, especially in the neighbourhood of villages and onsteads. Begins to flower about the middle of April, and has considerable claims to elegance and beauty. Still gathered by herbalists, but it has lost many of the multitudinous virtues that it once possessed. See Southey's Com. Place Book, ii. p. 665.

448. Marrubium vulgare. White Horehound. "Grows abundantly on the sea-banks by the road near Bambrough Castle," Wallis.

449. Calamintha acinos = Thymus acinos, Smith = Acinos vulgaris, Hooker.—In poor and light soils, rare. D. In fields at Haiden dean; and in Allerton dean near the cross railroad, abundant. —B. In a grass field between Ecklaw and Edmonston, abundantly, J. Hardy.

450. Clinopodium vulgare = Calamintha clinopodium. Dry bushy places, rare. B. Banks of the river opposite Norham. Birgham haugh, Dr. R. D. Thomson.—R. Banks of Tweed above Kelso, abundant; and below Broad Meadows. In the dean at Newtown. —N. Road-side within a mile of Belford. Warn dean. Autumn.

451. Prunella vulgaris. Meadows, pastures, and road-sides, common. June. In the Merse called Heart-o-the-Yearth and Prince's-Feathers. I have gathered it with rose-coloured and white flowers in the bed of the Eye above Grant's-house; and the white-flowered variety prevails on the poor fields of Stony-muir-rig, in the Liberties of Berwick. "A dwarf variety with white flowers, and the spikes of a green colour, occurs in barren marshy spots, in a field near Blackburn-rigg wood. Varieties with pink flowers are not rare." J. Hardy.

452. Scutellaria galericulata. Boggy places. B. Side of the Pease burn in a haugh at the foot of Penmanshiel wood, J. Hardy. —D. Allerton-mill dean, plentiful. Learmouth bogs, R. Embleton. —R. Yetholm and Linton lochs.

453. Pinguicula vulgaris = P. ovata, Stokes Bot. Comment. i. 121.—Butterwort.—Marshy places, particularly on moors, common. The Rot-grass of shepherds, who reckon it prejudicial to cattle, J. Hardy. "Ovibus noxia fertur ab Anglis aliisque," Linnæus. The properties of the plant are worth inquiry. See Fl. Lapp. p. 10.—It is a beautiful flower, and remarkable for its irritability. On being pulled, the leaves quickly curl backwards, so as almost to form a ball round the root by their revolution; and the flower-stalk bends itself backwards, and forms a more or less perfect segment of a circle. Proc. Berw. Nat. Club, i. p. 10.

---

38. Verbena officinalis. Vervain.—Penn. Br. Zool. iii. 43. B. Gathered in a corn-field near Cockburnspath by the Rev. A. Baird, and undoubtedly introduced with seed corn.

454. Utricularia vulgaris. Ponds. N. In the pond at Spindlestone.—B. Pond near Girtrigg, in the parish of Langton, Rev. Thos. Brown. Ferneyrig bog, Dr. R. D. Thomson.

455. U. intermedia. Ditches and pits, rare. B. In old peat pits in Penmanshiel moss and Langstruther bog, abundant: Lurgie loch: Handy's-land moss, J. Hardy.

456. Primula vulgaris. The Primrose. Grassy banks lying to the sun, very common. April–June.—Varieties at times occur having the flowers edged or blotched with pink. Another variety with purplish flowers (β. rufa, Gray Brit. Pl. ii. 302) occasionally meets us in our deans. The fine umbellate variety, often mistaken for P. elatior (see Wern. Mem. i. 221: Rep. Bot. Soc. Edin. 1837, p. 62; and 1838, p. 58), is abundant in the ravine above Ross, and in similar parts of the coast of Berwickshire. With Willdenow I can say,—"Vidi ex una radice pedunculos radicales unifloros, et scapos multifloros." Syst. Plant. i. 802. See also Hopkirk's Flora Glott. p. 32.—May 1, 1850, the Club found this umbellate variety with purplish flowers on the banks of the Till between Tillmouth and the picturesque bridge.—To go to the primrose bank, and gather primroses, is the delight of our children. They will often, in a pet, throw away a liberal handful, gleaned with mickle pains, in affected fear of the numerous insect Thrips that swarm on the flowers. These are never visited by the humble bees, which are so busy in search of the sweets of almost every other vernal flower.

Many botanists have their favourite flower around which they associate certain events, feelings and facts, that perchance may be too deep for tears, and which it is good to nurse in solitude and silence; but, singularly enough, few have thus married the Primrose. It is, however, the favourite flower of my excellent friends Mr. Archibald Hepburn and the Rev. Dr. Landsborough.

The favourite flower of

Sir James Edward Smith, M.D., was	Geum rivale.
Patrick Neill, LL.D.*	Ranunculus ficaria.
Rev. Charles Abbot	Alchemilla vulgaris.
Professor Robert Graham, M.D.† .	Sonchus alpinus.

* The last excursion—he had to take coach to make it—Dr. Neill made, was to see what he called the Ficaria bank at Cramond.

† The plant which the Professor showed the greatest ardour in collecting was Sonchus alpinus, which raises "its stately stalks and azure heads in spots which try the enthusiasm of the adventurous collector." Alpine plants have peculiar attractions. Sir James E. Smith tells us that "he has had frequent opportunities of remarking that the greatest enthusiasts in the science have been alpine botanists." Memoirs, ii. p. 451. And Professor Balfour gives similar evidence. "There is, moreover, something peculiarly attractive in the collecting of alpine plants. Their comparative rarity, the localities in which they grow, and frequently their beautiful hues, conspire in shedding around them a halo of interest far exceeding that connected with lowland productions." Manual of Botany, p. xiv. His pet flower is alpine.

William Withering, M.D., was	Menyanthes trifoliata.
Rev. Dr. Chalmers *	Galanthus nivalis.
Rev. William Kirby	Geranium pratense.
William Bromfield, M.D.†	Tamus communis.
William Borrer, Esq. ‡ is	Primula farinosa.
Professor G. W. Arnott, LL.D.§	Anagallis tenella.
Robert K. Greville, LL.D.‖	Saxifraga oppositifolia.
Professor J. H. Balfour, M.D.	Astragalus alpinus.
Miss Attwood	Campanula hederifolia.
H. C. Watson, Esq.¶	Trientalis europæa.
The Author	Oxalis acetosella.

* Dr. Chalmers had no taste for botany in his boyhood or early manhood, but when he was about 26 years of age he devoted some time to its study, and he became "so much fascinated with the pursuit," that, he adds, "I mean to lay out one-third of my garden in the cultivation of flowers." Life, i. p. 100.—Some readers may remember that Dr. Withering, when young, looked with contempt on a science, which few did so much to promote, and few loved so cordially, when maturity had taught him better.

† See Phytologist, 1850, p. 890.

‡ "I have seen bogs and mountain sides purple with this in Yorkshire, Westmoreland, and Cumberland; but nowhere else, perhaps, have I found it so fine as in Teesdale, where I once took up, I think, 16 seapes, each with a full-blown bunch of flowers, with one dip of my pocket-trowel. I have brought home abundance of plants, but they have scarcely survived a second flowering, and that a miserable one, in my garden." W. Borrer.—Dr. Goodenough, Bishop of Carlisle, writes as if a sight of this Primula was worth taking trouble for: "I was down in Cumberland time enough this year to see Primula farinosa in great abundance, lining our road-sides, and in our meadows. I have brought some roots into my garden." Mem. and Corresp. of Sir J. E. Smith, i. p. 588.

§ "Yes! there is a tiny plant with a prostrate stem as if unwilling to add to or detract from the beauty of the regular flowers which raise themselves on solitary slender stalks above the surrounding moss; it is of modest pink, most delicately pencilled, not glaring red. Well do I remember the first time I collected the Anagallis tenella, five-and-thirty years ago, on Guillon Links. It was a rarity on the east coast, but in the west is very common: the island of Cumbrae I have long proposed to call the Anagallis island: scarcely a bog but is covered with this flower: every summer it is more and more my delight. To the microscopist too it is a beautiful object, not only for the venation of the petals, but for the peculiarity of the hairs found on the stamens, the elegant structure of which has not, so far as I know, been hitherto noticed." G. W. Arnott. See Plate VI. fig. 4.

‖ "But I was once on the summit of Ben Lawers in April, when a girdle of snow was around the mountain, and the projecting rocks within a few feet of the top, radiant in the bright sunshine with the purple Saxifrage,—a carpet of flowers clinging to the very soil and kissing the snow. It is twenty-five years since I made that excursion, and I have never forgot that sight. My flower should then, if you please, be Saxifraga oppositifolia." R. K. Greville.

¶ "There has always," he writes, "been a special sort of pleasure in meeting with the Trientalis in my northerly rambles; and I take some pains to keep it in a bed of Rhododendrons pretty close to the door of my cottage, and thus frequently under eye."

" ..... in terrestrial things there is not one
But takes its form and nature from our fancy,
Not its own being, but is what we think it."

457. P. VERIS. Leighton in Ann. and Mag. N. Hist. Ser. 2, ii. 165.—Cowslip: Cooslip.

" On her left breast
A mole cinque-spotted, like the crimson drops
I' the bottom of a Cowslip."—SHAKSPERE.

Grassy banks and deans, frequent. B. It is a hurtful weed, yet we could almost hope a permanent one, on the lawn before Spittal-House, in the parish of Hutton; and abounds in a small plantation a little to the south of that village.—Cowslip wine is made in some parts of Berwickshire, but the practice is nearly obsolete. May.

458. GLAUX MARITIMA. B. Sides of the Eye near its mouth, Mr. Duncan.—B. and D. Sides of the Tweed within the influence of the tide, and in spots that are occasionally overflowed.—D. Sea-shore to the southward; very abundant in some localities, as at Goswick and on Holy Island. May–July.

459. TRIENTALIS EUROPÆA. Berw. Fl. ii. 279.—B. "About ten years ago there was a station for this elegant plant on Penmanshiel moor, but it has been ploughed up. It still grows in a bog on the adjacent moor. About two years ago I found a small patch of it on Coldingham moor, between Oldcambus moss and the Drone moss. This year I have found it in a very large patch, and scattered in another place, under fir-trees in Blackburn-rigg wood. It also occurs on the boggy moor adjacent to the wood." J. Hardy. In the plantation south of the Press, G. Henderson.—N. On Hepburn-hill, Rawse Castle, and in Chillingham park: on Hedgehope, about half-way to the summit. In a plantation, and on the moor near Twizell-house. June.

460. LYSIMACHIA VULGARIS. Very rare. B. In the Sowmire near Swinton, Dr. W. Baird. It has probably been extirpated.

26. *L. nummularia.* Rare. B. Banks of the Tweed at Milne-Graden, sparingly, Dr. F. Douglas. In the plantation above Newwater-haugh.

461. L. NEMORUM. Loose-strife. In watery places in deans, a pretty creeper; in alder holts, and in boggy ground on moors. June–Sept. A good plant for rock-work.

462. ANAGALLIS ARVENSIS. Pimpernel. Corn-fields, on a light soil, common. Very profuse in Holy Island. July–Sept.—I have gathered this plant with a stem fully 3 feet long, hexangular, and with 3 leaves and 3 flowers in every whorl.—" Plants usually expand their flowers well and perfectly on fine days, but many sorts close their petals against the coming of rain; hence we may often judge

39. Centunculus minimus. In his account of Eccles, Dr. R. D. Thomson mentions this as having been gathered on Mayfield moor, Stat. Acc. Berwicks. p. 54; but Dr. Thomson has since told me that the plant was introduced on erroneous information.

of the weather early in the morning by noticing the flowers."—"When this plant is seen in the morning with its little red flowers widely extended, we may generally expect a fine day; on the contrary, when the petals are closed, rain will soon follow." Forster's Prognostics of the Weather.

463. A. TENELLA. Sphagnous bogs, rare. B. Crawboat loch near Spring-hill, abundant, Miss A. Hunter.—D. Haiden dean. Near the Snook on Holy Island, Dr. F. Douglas.—There is a black line round the margin of the under surface of the leaves. The filaments are densely clothed with long white hairs, which the magnifier shows to be jointed and knotted after the fashion of the antennæ of some insects. See Plate VI. fig. 4, but it gives an inadequate idea of the beauty of the structure. We have scarce a prettier plant in the British Flora.

464. SAMOLUS VALERANDI. Damp watery places. D. Low moist spots on Holy Island links, Thompson. Ferneyrig and Learmouth bogs, Miss Bell.—B. Wet rocks on the sea-banks near Gunsgreen, Rev. A. Baird.—R. Banks of the Tweed in Fleurs' park, Dr. F. Douglas. July, Aug.

465. STATICE ARMERIA = Armeria maritima = A. pubescens, Babington in Ann. and Mag. N. Hist. Ser. 2, iii. 435.—Sea-Pink: Sea-Daisies: Thrift.—The sea-shore, common.—The flowers are usually rose-coloured, but a white-flowered variety is not uncommon on our sea-banks. Sir James E. Smith says that his S. armeria flowers in July and August, and Mr. Babington assigns the same period for it, while Withering gives May and June as the flowering season. With us the plant begins to flower towards the end of May, has attained its maximum beauty about the middle of June, and may be considered as overblown in July. The three exterior leaflets of the involucre are lanceolate and mucronate, the rest very obtuse with a membranous border: the pedicel of the flower is shorter than the tube and smooth, but the calyx entirely villous: the scape is downy and usually from 5 to 8 inches in height: the anthers are yellow, becoming a bluish-green in decay: the styles are filiform, with the upper half rough or glandular, and near their base they are furnished with a singular cluster of patent hairs. These are interlaced together so as to form a sort of lattice-work in the tube of the corolla over the germen; but the use of them I have not discovered. See Plate V. fig. 6.

In June, Yarrow-haugh* is one wide blush with this plant, and the effect of it, looking on the haugh from the opposite side of the

* Yarrowhaugh—viz. the haugh where the Yare is made. A Yare is "a dam thrown across a river to impede the free run of salmon, and so force them through the lock or trap, in which they were taken." Greenwell in App. to Boldon Buke, p. lxxii. There was another Yare called the Touths Yare nearer Berwick. "An other forde above that ys called Touths yare going from the feldes of Urde unto the castell felde of Barwyke." Survey of the Borders in 1542. This mode of fishing so low down in the Tweed has been abolished from a time beyond memory; but, singularly enough, it has been proposed for revival, within these few weeks, by a correspondent in the Berwick Advertiser!

river, is really beautiful: it is as if an evening cloud had settled down upon earth.—Used for edgings in gardens, but a sad harbourer of slugs and beetles. Under its covert some of the finest specimens of Vitrina pellucida may be collected.

466. S. LIMONIUM. Ann. and Mag. N. Hist. Ser. 2. iii. 438.—Sea Lavender.—On St. Cuthbert's isle, amidst the ruins of the Chapel. "This small fabric stood upon a low detached portion of the basaltic line of rock which runs in front of the ruins of the Priory Church. The bearing of this islet is south-west of the Priory, and its distance from the main land is not much more than a hundred yards. I know not its precise size, but there appears to be about half an acre covered with grass. The rest is naked stone, and there is one portion of stone in particular which rears its head to a considerable height above high water mark. The island, still bearing the name of St. Cuthbert, is completely insulated at full tide. At low water it is accessible by a ridge of kelpy stone, over which it is no easy matter to pass. Here, before the dissolution of the Priory of Holy Island, but how long before that event I know not, was a small chapel dedicated to St. Cuthbert..... The outline of the chapel is easily traced. In fact, its walls are in some places two feet above the ground, and they were much higher in the memory of man. It appears to have been 24 feet long and 13 broad. I could observe no freestone in this little fabric: it is entirely built of the basaltic rock upon which it was raised." Raine. Hist. N. Durham, pp. 145, 146.

467. PLANTAGO MAJOR. Planten: Wayþrede: Wayfron: Wayborn, or Wayþret,—that is Waybred, of which the others are vulgar corruptions, and they merely express the wayside habit of the plant, which is the child of road-sides and path-ways*. The Rev. Mr. Talbot mistakes the meaning entirely. He says—"Waybread is an old name for the Plantain, a weed which grows very commonly by road-sides in England. But what has it to do with bread? It affords no nourishment of any kind. The German name for it is Wegetritt, that is, Way-tread—a good name, because it is constantly trodden under foot, growing, as it does, on the hardest roads. I therefore conjecture that the word Way-bread, being ill written in the manuscript, was mistaken for Way-tread by our old herbalists." Etymologies, p. 412.—Another popular writer has fallen into Mr. Talbot's error. "Merrily might the traveller wend on his way when there was the little Speedwell to cheer him, Waybread to support him, Gold-of-pleasure to enrich him, Traveller's-joy to welcome him." See Notes and Queries, vi. p. 503†.—The seed-bearing spikes, called Cocks, are put into cages for the use and pleasure of the favourite bird. The

* And, on this account, the Swedes name the plant Wàgbredblad; and the Indians of North America Whiteman's-foot, for it springs up near every settlement the colonists make. Johnston. Notes on N. America, i. p. 109. Willdenow states that the plant grows spontaneously in Japan.

† So also it is a mistake to say, that Plantain is derived from the likeness of the plant to the sole of the foot, as in Richardson's Dictionary. Rather say because the herb grows under the sole of the foot.

leaves are much used in making the poultices and ointments of skilful herbalists.

468. P. MEDIA. Dry pastures, frequent in our district, and an ornamental species. R. It is plentiful on the southern base of the Eildon hills, and on every bank around the village of Bowden, but it is not found in Selkirkshire. Stat. Acc. Roxburghs. p. 36.

469. P. LANCEOLATA. Rib-grass: Kemps. Common in meadows and pastures. June.—Sown with other "artificial grasses," and eaten with great avidity by all sorts of cattle.—It is customary with children to challenge each other to try the "Kemps." A kemp consists of the stalk and the head or spike. Of these an equal number is skilfully selected by the opposed parties: then one is held out to be struck at with one from the opponent's parcel, which is thrown aside if decapitated, but if not, is used to give a stroke in return. Thus, with alternate strokes given and received, the boys proceed until all the Kemps but one are beheaded, and he who has the entire Kemp in possession considers himself the victor. Kemp is synonymous with hero or champion*. But the practice has also given to the plant the name of Fighter-Cocks amongst the children in Berwick and its vicinity; and in Durham Cock-fighters.

"It was once, and perhaps still is, a custom in Berwickshire to practise divination by means of Kemps. Two spikes were taken in full bloom, and being bereft of every appearance of blow, they were wrapt in a dock-leaf, and put below a stone. One of them represented the lad, the other the lass. They were examined next morning, and if both spikes appeared in blossom, then there was to be 'aye love between them twae:' if none, the 'course of true love' was not 'to run smooth.' The appeal, however, generally ended as the parties wished, for since it is the rule, in the inflorescence of spikes, that the florets blow in succession, the being laid beneath a stone would have little influence in retarding the normal expansion of them, if ready for development. The same, or a similar, superstition prevails in some parts of England: thus Clare in his Shepherd's Calendar—

> "Now young girls whisper things of love,
> And from the old dame's hearing move;
> Oft making 'love-knots' in the shade,
> Of blue-green oat or wheaten blade;
> Or, trying simple charms and spells
> Which rural superstition tells,

---

* The Swedes give the name of Kampar to Pl. media. The name Kemps is applied occasionally with us to Pl. major. The word is often used by romance writers. Here is an example from the old ballad of King Estmere:—

> "But in did come the Kyng of Spayne,
> With Kempes many a one."

See also Promptorium Parvulorum, i. p. 270; and Percy's Reliq. Ant. Eng. Poetry, i. p. 373.

They pull the little blossom threads,
From out the knot-weed's button heads,
And put the husk with many a smile,
In their white bosoms for a while,—
Then if they guess aright the swain
Their loves' sweet fancies try to gain;
'Tis said, that ere it lies an hour,
'Twill blossom with a second flower,
And from the bosom's handkerchief
Bloom as it ne'er had lost a leaf."—J. HARDY.

470. P. MARITIMA. Sea Kemps. Sea and river banks, plentiful. B. Lamberton moor; and sometimes in the Lammermoors.—D. On the muir at Unthank. Aug.—The spikes of this, and of P. coronopus, droop before the flowers are evolved, when they become erect.

471. P. CORONOPUS. Sea and river banks. June–Aug.

472. LITTORELLA LACUSTRIS = Plantago uniflora, Huds. Fl. Ang. 53.—Margins of ponds. D. The lough on Holy Island.—B. Coldingham loch: Mill-pond of Northfield farm: Dulaw moss burn: in a burn above the Press plantations, and similar localities on Coldingham moor, J. Hardy. Side of a pond at Primrose hill.—N. "At Hoseley lough in Northumberland," D. Richardson, 1762; and it still grows there. June, July.

473. CHENOPODIUM ALBUM. Myles. Waste grounds and cultivated fields, a common weed. Autumn.—It is an old saying, "Boil Myles in water, and chop them with butter, and you will have a good dish." J. Hardy.

474. CH. BOTRYOIDES. Babington in Proc. Berw. N. Club, i. 178. On the links of Holy Island, where it was first pointed out to several members of the "Club" by Mr. Babington. It had been previously considered to be Ch. rubrum of Smith; and Professor Arnott makes the botryoides a variety of that species. See also Watson's Cyb. Brit. iii. p. 496. Autumn.

475. CH. BONUS-HENRICUS. Flowery-Docken: Wild Spinage. Waste grounds about villages. Summer.—A Berwickshire name for this plant—Smiddy Leaves—indicates the observation of one of its favourite habitats, viz. the nigh vicinity of the blacksmith's workshop. The leaves are applied to ulcerated legs; and to irritable ulcers some have found no application give so much relief as a leaf renewed fresh every morning. An ointment made from the leaves, simmered in hog's lard and bees' wax, is also a favourite nostrum. One who prepared this ointment extensively called the plant Wild Mercury.

476. ATRIPLEX ROSEA. Babington in Trans. Berw. N. Club, i. 177; and in Trans. Bot. Soc. Edin. i. 13.—"This plant is in profusion on the S.W. side of Holy Island, a little above high water

40. Chenopodium murale. "Holy Island, between the town and castle," Thompson. Has been sought for in vain.

mark, and it also occurs in several spots on the coast and river-banks near Berwick. When it grows within reach of the water, and in muddy ground, it becomes much larger and more fleshy, having totally lost the elegance for which it is remarkable in its more typical state when growing on gravelly and sandy places, and would hardly be known as the same plant, but probably be taken for a state of A. patula. This latter state is frequent above the bridge at Berwick." C. C. Babington. Sea-shore from Fast Castle to Bilsdean, J. Hardy.

477. A. PATULA. See Woods in Ann. and Mag. N. Hist. Ser. 2. iv. 283.—Fat Hen.—Waste and cultivated grounds, common. Autumn.

478. A. DELTOIDEA. Wastes. My specimens were gathered on the sea-shore near the Needle-eye. It is the most interesting species of an ill-favoured genus. Autumn.

479. A. ANGUSTIFOLIA. Waste and cultivated grounds, common. July–Sept.

480. A. ERECTA. Babington in Trans. Berw. N. Club, i. 177: Prim. Fl. Sarn. 82: Supp. Fl. Bath. 88.—Corn-fields, common. "I noticed it in Holy Island, and also near the town of Berwick, in great plenty." C. C. Babington. Autumn.

481. A. LITTORALIS, var. α. — Sea-coast. D. "Coast beyond Beal, plentiful," Thompson. Holy Island, sparingly.

482. SALICORNIA HERBACEA. Woods in Ann. and Mag. N. Hist. Ser. 2. viii. 229.—Marsh Samphire.—On the shore in muddy places. D. Between Goswick links and Fenham, abundant: Holy Island. Autumn.—Occasionally sold in Berwick for the purpose of pickling.

483. SUÆDA MARITIMA = Chenopodium maritimum = Schoberia maritima. D. On the coast at and beyond Beal to Fenham, not common. Holy Island. Autumn.

484. SALSOLA KALI. Saltwort. On our shore in sandy places, common. July.

485. SCLERANTHUS ANNUUS. On earth-capt walls, and in dry sandy fields, common. July, continuing to flower until winter has set in.

486. POLYGONUM AMPHIBIUM. α. natans. Ponds, ditches, and slow streams, common.—β. terrestre. Sides of ditches, rivers, and in moist corn-fields. July, Aug.—"Stupenda metamorphosis plantæ ex solo: in siccis erecta scabra tristis; in aquosis natans glabra et læta." Linnæus.

27. *P. bistorta*. Snakeweed. In the plantation above Newwater-haugh house, probably introduced. June.

487. P. LAPATHIFOLIUM. Road-sides and cultivated grounds, not uncommon. Aug.

488. P. PERSICARIA. Redshank. Moist places and waste

grounds, common. Aug.—"Variat foliorum disco maculato et non maculato; species hæc unica. Variat etiam spicis albis et rubris, tamen eadem est." Linn. Fl. Lapp. p. 47.

489. P. HYDROPIPER. Ditches and watery places, frequent. Aug., Sept.—"Circa autumnum provenit, sero floret dum aliæ cessant, et noctibus gelu exasperatis tota rufescit nutante spica." Linnæus. It is the "Culrage" of our old herbalists. See Prompt. Parv. i. 108. n. 2.

490. P. AVICULARE. Swine's-grass. Wastes, roadsides, and cultivated fields, very common, flowering during summer. The variety with an erect stem may be found in almost every corn-field. The var. β. of Hooker's Br. Flora, p. 182, is also frequent in the neighbourhood of Berwick.—Pigs are said to be fond of this weed. Sheep and cattle eat it with avidity. Small birds find a never-failing supply of food in the profusion of its seeds. Being difficult to cut in the harvest time, or to pull in the process of weeding, it has obtained the sobriquet of the Deil's-Lingels.—Flourishes where trampled upon.

491. P. CONVOLVULUS. Spades—from the shape of the leaf. Corn-fields, common, and, in light soils, a troublesome weed. Aut.

16. **Fagopyrum esculentum.** Buckwheat. Cultivated in small quantity for the use principally of pheasants. See Beckmann's Hist. Inv. i. p. 425–431.

492. RUMEX CRISPUS. The Docken. Waste grounds and road-sides, common.

493. R. PRATENSIS. Wet road-sides and rich ground at our burn sides, not uncommon, but overlooked until the character of the plant was pointed out by Wm. Borrer, Esq., during his visit to Berwick in September 1850. Professor Arnott suspects that it is a hybrid between R. crispus and R. obtusifolius. Ann. and Mag. N. Hist. Ser. 2. vi. p. 474.

494. R. SANGUINEUS. In woods and shaded places. Var. α. genuinus. B. Woods at Netherbyres, Rev. A. Baird. Langton woods, abundant, Rev. Thos. Brown. Whitehall plantations, A. A. Carr. Banks of the Blackadder in front of Allanbank house.—Var. β. viridis. B. Newwaterhaugh, in a hedge behind the garden. Plentiful in the Pease-bridge dean.—R. Both varieties grow plentifully in the woods at Newton Don.—Willdenow tells us that this Docken is a native of Virginia; that it grows as it were spontaneously in Germany; and that it has migrated to Hampstead in England: but this tale of its travels is certainly fictitious. The plant is truly indigenous.

495. R. ACUTUS=R. conglomeratus. Watery places, frequent in our district. Summer.

496. R. OBTUSIFOLIUS. The Docken. Waste grounds.—A healing salve is made from the roots. The leaves, chopped up with oatmeal, are given to young poultry; and boiled simply, or mixed with bran, or shairps, or a little sour milk, they are given to swine.

I have seen them gathered from the churchyard in Tweedmouth for this purpose!, and very poor people will thus contrive to keep a pig through the summer. The leaves are also used to protect butter from the sun in carrying it to market. From the quickness with which they become dowie and pliable after being pulled, we say of things in general, in a state of relaxation, that "they are as souple as a docken." The fact is often alluded to by popular authors: thus Hogg, in "The Brownie of Bodspeck," describing one taken with sudden fear, says—"but his power failed him an' a' his sinnens grew like Dockans." And in "Tom Cringle's Log" we have—"But the Docken, man," said I;—"fusionless as a docken!"—"No gibes regarding the Docken," promptly chimed in Bang, "it is a highly respectable vegetable, let me tell you, and useful on occasion, which is more."—And it serves to point Allan Ramsay's humour:

> "She fand her lad was not in trim,
> And be this same good token,
> That ilka member, lith and lim,
> Was souple like a Doken,
> 'Bout him that day."—Poems, i. p. 280.

"If a person be severely stung with a nettle, it is customary to collect a few dock leaves, to spit on them, and then to rub the part affected, repeating the incantation 'In Docken, out Nettle,' till the violent smarting and inflammation subside." Brockett's Glossary, p. 98; and vol. i. p. 136 of the 3rd. edit. 1846: Athenæum, Sept. 12, 1846, p. 932: Notes and Queries, iii. p. 133; and pp. 205, 368, and 463.—"Monks for their insolency were driven out of their seats, and secular clerks brought into their room. Thus was it often, 'in dock, out nettle,' as they could strengthen their parties." Fuller. Ch. Hist. i. p. 210.

Children call the seeded plant Cushy-Cows, and they milk it by drawing the stalks through the fingers. The process of cheese-making is also gone carefully into, though the result is nearly equal to the absurdity of "winning three weights o' næthing." The practice, however, serves the purpose of checking, in some measure, the spread of a pernicious weed.

497. R. PALUSTRIS. Babington in Bot. Gazette, i. 296.—Very rare. N. On the margin of Pawston lough, Rev. J. Baird.

498. R. ACETOSA. Sour-Dockens: Sourocks. Old grassy banks and pastures, common. July.—The leaves are eaten by children. They are not disagreeably acid.

499. R. ACETOSELLA. Sheep's-Sorrel. Barren cultivated fields, and on heaths, &c., very common. June, July.

28. *Daphne laureola*. Spurge-Laurel.—B. Naturalized on the banks of the Eye above Netherbyres, Rev. A. Baird. Banks of the

---

41. Rumex maritimus.—In 1832, Dr. R. Dunlop found this species plentiful on the shore behind Berwick pier, introduced with ballast, and it has now disappeared.

Whiteadder at Whitehall, A. A. Carr. Common in gardens and shrubberies. March.

500. EMPETRUM NIGRUM. Crawberry: Crawcrooks. On moors, very common; and also on our sea-banks, where I find it in full flower at the commencement of January.—Crows eat the berries greedily. They ripen in autumn, when muirland boys go to gather them. The Swedish name is the same as theirs for the pretty creeping shrub, "Krâk-ris."

501. MERCURIALIS PERENNIS. Mercury. Med. Botany, ii. pl. 78.—In woods and deans, forming extensive patches. April, May.—Poisonous. In autumn the leaves are subject to a rusty tubercular roughness, which is not to be confounded with their parasitical Uredo.

502. EUPHORBIA HELIOSCOPIA. Little Good. A common weed in gardens and waste grounds. The milky juice is used by children to remove warts.

503. E. PEPLUS. With the preceding, and equally common. July, Aug.

504. E. ESULA. B. Our only station is on Birgham haugh, and Miss E. Bell assures me that my suspicion of its having been introduced there is unfounded, for there never was any garden near where it grows.—R. On a dry bank by a road-side near Melrose, in some abundance, A. Jerdon. ("In the greatest abundance on the Teviot near Minto, as far removed from a garden as the station at Spring-hill or Birgham," Miss E. Bell and Miss Hunter.)

505. E. EXIGUA. This neat species occurs in corn-fields, and on sandy or gravelly wastes, throughout the district, but not commonly. B. Birgham haugh, R. D. Thomson. In great profusion near Newtown.—D. In corn-fields about Ord, and very luxuriant on the line of the railway near Mount-Pleasant. At Allerton-mill dean. Scremerston.—R. Near Smailholm. Autumn.

506. CALLITRICHE VERNA. Plate VI. fig. 5.—Common in ditches, ponds, and still waters. Summer.—In Fl. Lapp. p. 3, Linnæus has happily described three varieties of this plant, as they occur with us. See also Arnott in Edin. Journ. Nat. and Geogr. Sc. i. p. 427.—The C. platycarpa is common on wet ground, in clayey places over which water trickles; *e. g.* on the sea-banks under the Pigeon's Cove, flowering and fruiting in autumn. It is not a variety but a state of C. verna. The same specimen usually presents the peculiar characters of both C. platycarpa and C. stagnalis.—Aug. 5, 1851. Gathered specimens of a Callitriche in the peatery at Grant's-house. They were not growing in the water, but on the moist soil. The stems, creeping along the surface, were fixed by root-fibres which issued from almost every knot. The leaves were broadly obovate with two very faint lateral nerves arising above the base of the mid one. They were therefore the leaves of C. verna, and, like them, they were fleshy and entire. Yet the fruit was ebracteated, and acutely keeled like the fruit of C. autumnalis!

507. C. PEDUNCULATA. B. Langstruther bog; and in a pool on Greenside hill, J. Hardy. In pools on muirs, perhaps, not rare.

508. URTICA URENS. The Nettle. Waste places, frequent. Aut.

509. U. DIOICA. The Nettle: Stingey-Nettle. Amongst rubbish and in wastes—the companion of man wherever he goes; and amidst the Cheviots it lingers long after the shieling has been deserted and the walls rased. July.—Leeuwenhoek has given a good description of the sting of the Nettle, and it was, I believe, the first published. Select Works, ii. p. 264. pl. 18. fig. 24–28.—The leaves, chopped and mixed with oatmeal, are given to young turkeys. A decoction of the entire herb is occasionally used medicinally. The young leaves used to be boiled in broth. "Weeds are counted herbs in the beginning of the spring: nettles are put in pottage, and salads are made of eldern-buds." Fuller.

510. PARIETARIA OFFICINALIS. Pellitory-of-the-Wall. On old walls, especially of old castles, frequent. B. On the Ramparts and Old Castle of Berwick. Garden wall behind Renton Inn, &c.—N. On Ford Castle, built by Sir William Heron in 1287. Two old towers, one on the east flank, and one on the west, are the only remains of the old Castle which are retained in the present edifice. On the west tower the Pellitory grows.—Rocks by the Till on Lord Fitz-Clarence's Walk, &c. Summer.

> ". . . . . did cure me
> With sodden ale, and Pellitory of the Wall;
> Cost me but two-pence."—The Alchemist.

29. *Humulus lupulus*. The Hop. Occasionally planted in hedges. Has naturalized itself in those about Paxton.

511. ULMUS MONTANA = U. campestris. The Elm: Wych or Scotch-Elm. Indigenous in many of our deans, and planted in hedges, &c. Elmdene, in the parish of Cockburnspath, obtained its name from the Elms growing in the glen, some of which are still among the largest in that part of Berwickshire*. In the haughs of the Teviot and Tweed, near Kelso, there are some noble and thriving examples: and the remains of the famed "Trysting Tree," one of the largest Wych Elms on record, are still preserved. In the year 1796 the trunk was about 30 feet in girth. The tree is now apparently dead. Stat. Acc. Roxburghs. p. 129. In the park at Thirlstane Castle there is an Elm which measures in girth, at three feet from the ground, 15 feet. A large Wych Elm which stands near the S.E. angle of Blackadder house, is 14 feet in circumference at about five feet from the ground, about 70 feet in height, and is supposed to be about 200 years old. In the Hirsel woods, some of the fine Elms present a curious appearance, for the branches have sought the ground, and run along the surface to from 20 to 30 feet, the branches

* At page 14 the name of this place is printed Heriot's dean, which, Mr. Hardy tells me, is locally unknown, and has got by some error into the maps.—We have also Elm-ford, but the Elm here appears to be derived from the name of a proprietor of old.

being about the thickness of a man's leg*. An elm in the Brewery garden at Ednam is in girth, at the ground, 23 feet; at the height of 10 feet, where the first large branch springs, 10 feet; and at the height of nearly 25 feet, where the second large branch springs, 9 feet; it is nearly 60 feet in height, and the branches spread over a space 23 yards in circumference. The trunk is sculptured with deep ridges like a cork-tree, and ornamented with some admirable tufts of Polyporus squamosus†.—The Hanging-Tree, or Burrow's Tree, at Cowdenknowes, on which the Home of that ilk was wont to suspend a refractory retainer, or hostile border marauder, was an Elm. Chambers describes it as "a hard, knotty, ill-favoured piece of timber, with a sullen look, as if oppressed with a bad conscience." Pict. Scot. p. 29. It was cut down, I am informed, by a son of the late Dr. Home of Cowdenknowes, on his sale of the estate, to be made up into chairs and snuff-boxes; and the present proprietor completed the act by stubbing up the root!‡

> "Oak, ash, and elm tree,
> The Laird can hang for a' the three;
> But fir, sangh, and bitter weed,
> The Laird may flyte, but make naething be 't."

This popular rhyme affords data for ascertaining the comparative value of our indigenous woods. The Bitter-weed is the Poplar, the

* Mr. Smith informs me that a peculiar feature in all the trees at the Hirsel is that they incline to weep. This is observed not only in the Elms, but in the Oaks and Sycamores, &c.

† I avail myself of this opportunity to give the facts on which it is mentioned, in the Introduction, that Ednam was the birth-place of Captain Cook's father, and for which I am indebted to the Rev. Wm. Lamb. On the 7th January of the present year a person called on Mr. Lamb, and stated that he wished to have the parish register searched, with a view to ascertain whether the birth or baptism of one James Cook was recorded; or, in other words, he wanted evidence that this parish was the birth-place of Captain Cook's father. The person's name was Nicholas Cook—a descendant of the voyager—and he told Mr. Lamb that it was always understood in the family that the said James Cook came from this part of the country. On leaving it he had taken up his abode at Ayton in Berwickshire; from which place he went to Martin, Cleveland, where the famous Captain was born. The following extracts confirm the family tradition:—"Dec. 24, 1692: John Cooke in this parish and Jean Duncane in the parish of Smaillhume, gave up their names for proclamation in order to marriage: a certificate produced of her good behaviour. John Cooke and Jean Duncan were married Jan. 19, 1693."—"1694. John Cook had a son baptized, called James, March the 4th day."—Mr. Lamb also finds, in the parish record, that John Cuke, the grandfather of the Captain, was an elder in Ednam parish in 1692; Mr. Thomas Thomson, father of the poet, being at the same time minister.

‡ Writing in Oct. 1847 (Tait's Magazine, p. 657), Sir Thomas Dick Lauder tells that this tree, "which is very unsightly, from its gnarled and festered appearance, still remains." Here Sir Thomas, as is his custom, copies from Mr. Chambers. He forgot that Mr. C. had published several years previously.

bark of which is very bitter.—The inner bark of the Elm, for a certain pleasant clamminess, is chewed by children, and hence the tree is called Chewbark. A decoction of it is said to be a good remedy to remove the retained cleansings of cows after calving.

17. Ulmus campestris = U. suberosa. English Elm. In plantations, common. A tree at Blackadder is 10 feet 2 inches in girth, and about 70 feet in height.

30. *Hippophaë rhamnoides*. Sea Buckthorn. B. Sea-banks at the mouth of Dunglass burn, Rev. A. Baird.

512. MYRICA GALE. Gale. Trans. Berw. N. Club, i. 101. —Abundant on the moors above Ford and Doddington; and between Belford and Wooler. Has not been found in Berwickshire. —If sheep, from hunger, are necessitated to browse on this shrub, they get the disease called the "Yellows." Walker in Essays, p. 525. —The venerable and reverend W. Kirby characterizes it as "one of the most spicy of English plants, both foliage and fructification. Sutton observed that the male plants are in general taller than the female, probably for the purpose of impregnating the germens of the latter with the prolific dust of the anthers." Life, p. 153.

513. BETULA ALBA. Birch or Birk. Copses formed of Birch occur on the moors of our district in many places; and small trees, sown by nature, are frequent on the banks of the various waters that flow through the valleys and deans of the Cheviots and the Lammermuirs. Mr. Babington would refer most of our Birch in these places to his B. glutinosa; and the variety in plantations to B. alba. The weeping Birch occurs only in the grounds around seats, and is not common.—Dr. Turner, our Northumberland herbalist, gives a curious account of the uses of the Birch. "I have not red of any vertue y^t it hath in physik: Howe be it serveth for many good uses, and for none better then for betynge of stubborne boyes, that either lye or wyll not learne. flechers make prykke shaftes of byrche, because it is hevier then espe is. byrders take bowes of this tre and lyme the twygges and go a bat folynge with them. fyssheres in Northumberlande pyll of the uttermoste barke and put it in the clyft of a styke and set it in fyre and hold it at the water syde and make fyshe cum thytehr, which if they se, they stryke with their leysters or sammon speres. Other use of the byrche tree knowe I none." The modern reader may be interested in comparing this with Mr. Selby's description in his beautiful work on 'British Forest Trees,' p. 225.—In spring, hive-bees often labour upon the unexpanded buds of the Birch, which, at that period, are clammy with gum. The "stick and rice dyke," or "dead hedge" of the farmer is made with the branches where the thorn is deficient. It supplies also net stobs, and some of the materials for constructing a whin-shade. The "Birk knots," which so frequently deform the tree, are often mistaken by the unskilled in bird-nesting for the nest of the Cushat. Shoemakers make their pins and clog soles of Birch. The catkins furnish a winter food to the Linnet and the long-tailed Titmouse.

514. ALNUS GLUTINOSA. Alder or Aller. By burn-sides and in moorish boggy ground, where it forms thickets that get the name of Aller bogs. It has given a name to Allerdean; and many farms had formerly some haunt of the bush which was called the Allers. The remains of decayed forests of it are often found buried in the course of draining boggy grounds, for this tree has ever been "the most faithful lover of watery and boggy places, and those most despised weeping parts, or water-galls of forests." "It is only, however, where the soil is good, and at the same time well watered, but not actually swampy, that it attains a large timber-like size." P. J. Selby. Many birds build in the branches; and the wren loves to nestle in the bank on which the tangled roots have been exposed by the flood. The colour of the tree, in early spring, when browned by the bursting buds and catkins, is very agreeable. The young twigs and the catkins are used as a black dye, to diminish the quantity of logwood. The wood is preferred for making the soles of the clogs in common use by the hinds of Northumberland; and aller burs or knots the turner makes into snuff-boxes.

515. SALIX PURPUREA, Brit. Fl. p. 382.—B. Grange-burn where it crosses the post road.—D. Banks of the Till from Etal to the Tweed. —N. Learmouth bog.—R. Bank of the river Tweed opposite Melrose, Maughan.—May.—This appears to be S. amnicola of Dr. Walker, who correctly says, "This low shrub is rarely to be found at a distance from running water. The situation it delights in, is the very brink of a brook or a river, especially where they run upon gravel." Essays, p. 432.

516. S. HELIX. Water Willow. Common on the margins of our gravel-bedded burns and rivers, and especially in the islets of the latter, where it forms dense patches of bushes that are often selected by our songsters to nestle in. This Willow is the companion of the Butter-bur, the large Epilobia, and the reed-like grasses. May.

517. S. PENTANDRA. Bay-leaved Willow. Bogs, not rare. D. In the dean below Allerton mill; Haiden dean; in a hedge near Duddo, &c.—N. Base of Yevering Bell.—B. Penmanshiel moss; Winden dean, and Penmanshiel wood, J. Hardy. Near Langton House, Rev. Thos. Brown. Chatterton bridge in the parish of Polwarth.—Professor Arnott remarks that when cultivated, this handsome shrub becomes "a tree 18–20 feet high." We have several such trees in our district. Two of them stand at Hutton bridge, easily distinguished by their shining dark-green laurel-like leaves.

31. *S. fragilis.* The Crack or Red-wood Willow.—Is sometimes seen in plantations. See Selby's Brit. For. Trees, p. 152.—When a branch, broken off, falls into running water, and is retained there despite the force of the stream, it soon puts out copiously shaggy root-fibres, two or three inches long, and of a beautiful red colour. A branch thus ornamented is a curious object.

32. *S. russelliana.* See Leefe in Trans. Bot. Soc. Edin. i. 162. Bedford Willow.—Frequent in plantations. I cannot pretend to distinguish this from the preceding.

518. S. ALBA. White Willow: The Willow-tree: Saugh-tree.

> "To where the Saugh-tree shades the menin pool,
> I'll frae the hill come down when day grows cool."—A. RAMSAY.

In every part of our district, "very fine examples of this tree are often met with, and, when growing in an appropriate situation, such as on the banks of a river, the margin of a purling brook, or in one of our low, sheltered, and sunny haughs, it forms a beautiful and interesting feature, its silvery and plume-like foliage giving an air of lightness and grace to the landscape, and producing, by its contrast with foliage of a deeper tint, that effect so agreeable to those who view such scenes with the eye and feeling of an artist." P. J. Selby. —Trunks of large trees of this species are exposed in the deep draining of some of our mosses.

33. *S. vitellina* = S. amerina, Walker, Salicet. in Essays, p. 437. —"It grows in great abundance, and with every appearance of being a native, upon the river of Eden at Mellerstain in the Merse; but has undoubtedly been introduced, along with many other exotic trees, in the plantations about that fine place. One tree of this sort, upon the river below the house, was measured in September 1795 and found to be 4 feet 10 inches in circumference 4 feet above the ground, and 30 feet high."—"Brought originally from England or from abroad, but long cultivated in Scotland as a basket Willow. It is probably a native of the east, and perhaps of the southern parts of Europe."—"Its bright green foliage and its white bark render it one of the most pleasing trees to the eye. It is therefore remarkably adapted for ornamenting any marshy grounds, or the sides of lakes." Walker.

519. S. FUSCA. D. On the links of Holy Island; and on Ross links, where it forms patches, in general, of a circular form. The plant was considered to be S. argentea until the error was corrected by Mr. Borrer, who saw specimens in the herbarium of Mr. Embleton. See Trans. Berw. N. Club, ii. p. 122. The error is one that can plead "ancient authority" in apology. With. Bot. Arrang. ii. p. 52.

520. S. REPENS. On moors where the heather grows long, as on the edge of the natural wood at Ford moss, and in many similar localities.

521. S. FŒTIDA. D. Learmouth bogs. April, May.

522. S. PROSTRATA. In moor deans amongst rough herbage. D. Allerton mill dean, &c. April, May.

523. S. ARGENTEA. Walker, Salicet. in Essays, 435. B. In the bog on Birgham muir. In a bog to the north of Sweethope farm-house, Rev. Thos. Brown.—N. Ford moss, F. Douglas.—The five preceding are now considered to be varieties of one species.

34. *S. viminalis.* **The Osier.** Banks of our rivers and burns; in hedges, &c. quite naturalized. April, May.—"All the plants of this species which we have in Scotland were originally from Holland, and they are almost all females, a male Osier being very seldom, if ever, to be seen." Dr. Walker, Essays, p. 421.—I have not been able to discover wherefore a "willow wand" became the ensign of a merchant ship. The fact is mentioned in the ballad of Sir Andrew Barton, as printed in Percy's Reliques :—

> "Take in your ancyents, standards eke,
> So close that no man may them see;
> And put me forth a white willowe wand,
> As merchants use to sayle the sea."

35. *S. smithiana.* In hedges, and in thickets by burns, occasionally. April.

524. S. CINEREA = S. cinerea, aquatica, et oleifolia, Smith.—**The Grey Saugh.**—In peat bogs on all our moors, on banks in deans, and in hedges. It often forms a little thicket, especially in oozy ground by the sides of our muirland or dean burns; and these are favourite resorts of our summer song birds.

525. S. AURITA. Deans, where, with other lowly shrubs, it often forms extensive brakes. It produces in profusion catkins which are perfect towards the end of April and the beginning of May. The males are of a rich golden-yellow, breathing a sweet perfume when mature, but the young anthers are scentless and tinged with purple. The female catkins are silky-grey, scarcely an inch in length. It is a distorted scraggy willow, of a hoary hue, with short kneed branchlets, and without beauty; yet I love it well, for it loves the sunny far-away deans that I love; and it has, moreover, a character,—a quality in which many willows are lamentably deficient.—The queens of many humble-bees frequent the male catkins.

526. S. CAPREA=S. malifolia, Walker, Salicet. in Essays, p. 426. **Saughs: Saugh-tree.**—Common in wooded deans. March, April. —The bark, along with that of the Oak, was formerly used by our fishermen to "bark" their nets. A branch is the favourite porridge-stick. The twigs loaded with bursting catkins are called **Palms**, and children go out annually to gather them on or before Palm-Sunday. Brand's Pop. Antiq. i. p. 120.—April 4th, 1852. Almost every member of the Roman Catholic church carried one or more palms on their dismissal from their chapel. Some of them preserve these palms, hung below the ceiling, or over the chimney-piece, until the following Easter.—"The flowers of all the Willows are well known to be acceptable to bees: but there is no species of more importance than this, not only on account of the vast profusion of flowers it throws out, but the time of their appearance. It is in full flower between the 15th of March and the 8th of April. During this time, whenever the thermometer is at or about 42° in the shade, accompanied with sunshine, the bees come abroad. This is a temperature which often occurs; and if bees have an opportunity, during that interval, of

feeding three or four days upon this Willow, the hive will be preserved, when, without this, it would probably perish." Dr. Walker.

> "The Bees shall loathe the flow'r, and quit the hive,
> The Saughs on boggy ground shall cease to thrive,
> Ere scornfu' queans, or loss o' worldly gear,
> Shall spoil my rest, or ever force a tear."—Allan Ramsay.

36. *S. andersoniana.* D. In a hedge near Mount Pleasant. From a mistake of Mr. Winch this was described as S. forsteriana in Berw. Flora, ii. p. 289. See Brit. Flora, p. 394. May.

527. S. TENUIFOLIA. D. Plentiful in Learmouth bogs.—The stalk of the naked germen is either smooth or hairy. The latter specimens might be referred to S. wulfeniana of Smith.

528. POPULUS TREMULA. The Aspe-tree or Aspen. Selby, Brit. For. Trees, 184.—B. In Birchy bank, and Lumsden dean, J. Hardy. On a bank overhanging the inn at Abbey St. Bathans. In the Snail's Cleugh amidst the Lammermuirs; and the name of the ravine, which divides Berwickshire from E. Lothian, is probably derived from its former wooded character, to which this tree, to judge from the scions that remain, must have mainly contributed. Common in plantations.—"I 'm trembling a' o'er like an aspen leaf," is a familiar comparison with our common people. The constant tremulous motion of the leaf is produced by the peculiar form of the foot-stalks, and is so familiar a phænomenon as to have attracted general attention:

> ". . . . . his hand did quake,
> And tremble like a leafe of aspin greene."—Spenser.

> "Her tongue still chats of this and that,
> Than aspine leaf it wags more fast;
> And as she talks she knows not what,
> There issues many a truthless blast."—H. Gifford.

A legend, originating in reverential awe, ascribes the trembling of the leaf to a cause which Mrs. Hemans has prettily versified:

> "Oh! a cause more deep,
> More solemn far the rustic doth assign
> To the strange restlessness of those wan leaves.
> The Cross, he deems, the blessed Cross, whereon
> The meek Redeemer bow'd His head to death,
> Was form'd of aspen wood: and since that hour
> Through all its race the pale tree hath sent down
> A thrilling consciousness, a secret awe
> Making them tremulous, when not a breeze
> Disturbs the airy thistle-down, or shakes
> The light lines of the shining gossamer."

18. P. alba. White Poplar or Abele. Selby, Brit. For. Trees, 181.—In plantations.

19. P. canescens. The Grey or Common White Poplar. Selby, lib. cit. 175.—In plantations.

20. P. nigra. Black Poplar. In plantations.

21. **P. monilifera.** Black Italian Poplar. — Selby, Brit. For. Trees, p. 198.—In plantations.—"One of the largest and finest, and perhaps, also, one of the oldest specimens of the species in Britain, is now growing at Maxwell heugh, near Kelso. The trunk, previous to dividing into the enormous limbs which form the head, is sixteen feet and a half in height; at the base it measures thirty-one feet in girth, at two feet above the ground twenty-one feet, and at ten feet above the base eighteen feet; its solid contents are found to be upwards of nine hundred feet, and yet this enormous vegetable production cannot be much above sixty years old. At Twizell, planted in light free loam above twenty-two years ago, it is upwards of sixty feet high, with a straight continuous trunk, and measures in girth, at two feet from the ground, five feet five inches: others of a younger age show an equal rapidity of growth." Selby. Also Stat. Acc. Roxburghs. p. 306.

22. **P. fastigiata.** Lombardy Poplar. In avenues and pleasure-grounds.—"A Lombardy Poplar, at Nisbet, in Berwickshire. It grows on the north side of the canal, opposite to the garden, measured on the 15th of September, 1795, 6 ft. 1 in. This tree was then 26 years old, and was 60 feet high, so that its growth for such a period of time was certainly very great." Walker, Essays, p. 63.

23. **P. balsamifera.** Balsam Poplar.—In avenues and plantations.—"The Balsam Poplar was first raised in a nursery-ground at Leith, by seeds sent from Canada, in the year 1768." "The very early disclosure of its leaves in spring, and their fragrance, which perfumes the air, render it very agreeable." Rev. Dr. Walker.—There is a very fine round-headed tree at Belford (Selby's Brit. For. Trees, p. 210), about 50 feet high, with a trunk, at a foot from the ground, 7 feet 9 inches in circumference.

Oct. 7, 1852, I measured a leaf that had fallen from a young Balsam Poplar at Newwaterhaugh, and I found the length of it to be $10\frac{1}{4}$ inches, and the breadth $9\frac{3}{8}$ths. The leaf of a Lime, measured about the same time, was 7 inches long by 7 in breadth; and another was $6\frac{1}{2}$ by 6 inches. The leaf of a Plane-tree from Gunsgreen, and within the breath of the ocean tide, was $11\frac{1}{2}$ inches in breadth, and 8 in length. I presume these are large leaves, and beyond the average size; and it is a question whether their size was dependent on the young age of the tree, or the influence of the sea air. Perhaps on both. That the sea has a tendency to enlarge vegetation, seems proved by the following notes with which Mr. Hardy has furnished me. On the 21st October, 1849, he gathered leaves from some diminutive shrubby Oaks that grew close upon the sea-beach, at the base of one of the steep gravelly declivities to the east of Redheugh, and intermingled with hazels, sloethorns, briers, honeysuckles, brambles, and clumps of the French-willow. The foliage of these dwarfed and storm-beaten Oaks has a luxuriant character, more especially the lower leaves. One leaf was 12 inches long and $5\frac{1}{2}$ broad; another 11 by nearly 6; another $10\frac{3}{4}$ by $4\frac{3}{4}$; and another $10\frac{1}{2}$ by $5\frac{1}{4}$. The leaves were strong and thick in texture. The leaves of the

Hazels were like those of young Hazels in inland situations. In the Honeysuckle, which here flowers well, and produces large juicy fruit, the increase of the leaf was most to be remarked in breadth, the basal portion being, in many instances, the segment of a circle. The length of one was $3\frac{1}{4}$ inches by $2\frac{1}{4}$ in breadth, and it had also gained in thickness. On the sandstone rocks to the east of the Cove shore, the Aspen comes down to the edge of the cliffs, and the foliage was so enlarged that Mr. Hardy, at first sight, mistook it for the black Italian Poplar.—" In herbaceous plants, perhaps, the most remarkable change occurs in Scabiosa succisa. A pretty general size is 11 inches long, by a breadth of 2 at the widest. On the greywacke the leaf is very smooth and quite glabrous, although its roughness and pubescence are distinct when growing on a red sandstone soil. The leaf is much thicker and more fleshy, and of a paler green, than when growing in the interior, and the tip becomes obtuse, being pointed in its normal condition. Hieracium murorum undergoes nearly a similar change; the leaves are generally thicker and more fleshy than those I have gathered inland, as at Castle Eden dene, and the underside of the leaf is often pinkish. In the fissures of the greywacke rocks, there is a smooth, almost glabrous, paler-coloured leafed variety, with ovate, and much more pointed leaves; but the rough-leafed varieties grow in the gravelly places. Some of the radical leaves of Viola canina are much enlarged, and their hue is much fainter than inland, approaching to that of V. odorata. Of one, the petiole is $5\frac{1}{4}$ and the leaf $2\frac{3}{4}$ inches long by $2\frac{1}{4}$ at the greatest width. The pinnæ of the leaflets of Orobus tuberosus are likewise, in several instances, exceedingly broad, which contrast strikingly with the linear leaflets of some moorland specimens. Luzula sylvatica, and sometimes even Calluna vulgaris, acquire an unprecedented bulk. The common Dandelion, in sheltered nooks, assumes a new form and habit of leaf; as it becomes nearly obovate with but slight inferior laciniation, and both sides thereof are hispid. The common Sow-thistle appears under a shape that might almost challenge to be discriminated as a distinct species; the leaf has become nearly divested of its prickles, is thin and tender, of a deeper and rather glaucous green, and it is cut into a shape that invests it almost with attributes of elegance. The fore portion is arrow-shaped (deltoidal) and large, the lobes pointing backwards; as likewise do the smaller segments. Sometimes the stem never rises, and the leaves spread over the soil like a star. Of Plantago maritima, I recollect meeting some extraordinary specimens on a very exposed part of the coast of Durham, between Marsden and Monkwearmouth. The leaves were fully a foot in length, nearly as thick as quills, and as succulent as an Aloe, while the stout and lengthened flower-stalks produced not merely a single head, but sometimes more than a half-dozen in a bunch. Of the influence produced on fruits, I have only observed two examples, but these are sufficiently marked. These are the hips of two of the common Wild Roses. The most remarkable are those of Rosa tomentosa, of which the primary one is nearly quite globular and almost like a crab apple (approaching to the character ascribed

to R. inodora), the two lateral ones being shortly urceolate. The circumference of one of the first, that I have plucked merely in passing, is 2½ inches. The fleshy part is thick and pulpy, and the persisting calycine leaflets are almost like miniature leaves, from the development they have acquired. The leaves, and especially the stipules, are likewise much magnified; the upper sides of the leaflets are nearly glabrous, as are the peduncles and fruit. The double dentition of the leaflets is almost lost, the secondary set of teeth being raised nearly to the rank of the primary. The change is also very striking both in the foliage and fruit of Rosa canina, which bears here a full complement of fruit, in a complete triple series. The fruit also is very unlike the puny, fleshless hips on inland bushes, and the primary one rivals in magnitude the largest of the inland fruits of R. tomentosa. The stipules and leaflets are also much enlarged, the latter belonging to the form named sarmentacca. These appearances I ascribe partly, as in the ligneous plants, to their being kept constantly in a youthful condition, from their being subject to repeated blasts, and from their annual efforts made to retrieve the damage thus inflicted by the production of young shoots. Something also may be owing to the increased humidity of the atmosphere, and the equable temperature prevailing on the coast; and if an analysis of the foliage could be obtained, it would perhaps be found that an exchange of alkalies had taken place in the composition of the plants, soda having taken the place of potash. This frequently occurs in inland plants cultivated in the neighbourhood of the sea, and it has been remarked that the oaks of Rhode Island, in America, have made the substitution referred to." J. Hardy.

24. **Fagus sylvatica. The Beech.** Plantations, pleasure-grounds, and hedge-rows. A fine Beech, on the banks of the Blackadder at Allanbank, must be about 15 feet in girth at a man's height from the ground.—The young zigzag stems are used for whip shafts.

25. **Castanea vulgaris. The Chestnut.** Introduced by the Romans into Britain. Not uncommon in plantations, attaining a large size in a favourable soil. "At Belford Hall, in Northumberland, upon a free loam over the whintrap, at about seventy years old, it is from seventy to eighty feet high, the circumference of the trunk about ten feet." P. J. Selby, For. Trees, p. 335.—A Spanish Chestnut at Bemerside is 19 feet at two feet from the ground; and its stem continues to measure a few inches less than this to the height of nine feet, when the limbs begin to spring out; and when the girth greatly increases. The age of the tree is not known.

529. QUERCUS ROBUR. **The Oak: Aik-tree.** In woods and deans.

530. Q. SESSILIFLORA. With the preceding, and perhaps the commoner of the two, provided we can draw any certain limits between them, which does not appear to be the fact. See Dr. Greville's Observations in Trans. Bot. Soc. Edin. i. p. 65.

Oak trunks of a large size have been occasionally dug out of

mosses in our lowlands and in our muirs*. These may have been contemporaries with those which the aborigines hollowed out with fire to make their canoes. There is a long interval between the sub-fossil specimens and any that now survive with us. Indeed there is no oak within our district of traditional or historical celebrity. About the largest I have heard of is one at Blackadder, which, in 1836, was nearly 80 feet in height, and 12½ feet in circumference at about 4 feet from the ground. Some names carry us further back. In ancient times the Pease-burn was called Aikieside burn, from the coppice of oaks which clothed its eastern bank†. It abounds there yet, and in the adjacent deans. We find plenty at Abbey St. Bathans, the lineal descendants of a native race; on Yevering Bell; and in many other banks of deans among the Lammermuirs and Cheviots. Fenwick wood appears to have been immemorially famous for its Oaks. So late as 1763, there were for sale in Fenwick Park 1926 oaks ready for the axe, and "very fit for ship-building." Raine's N. Durham, p. 202.

The picture is imaginary, but there is a sterling vigour in the lines in which Bishop Hall describes the dietary and cates of our aborigines when still salvage men, that I am tempted to quote them:—

"Time was, that whiles the autumne-fall did last,
Our hungrie sires gap'd for the falling mast.
Could no unhusked acorne leaue the tree,
But there was challenge made whose it might be.
And if some nice and liquorous appetite
Desir'd more daintie dish of rare delite,
They seal'd the stored crab with clasped knee,
Till they had sated their delicious ee.
Or search'd the hopefull thicks of hedgy-rows,
For brierie berries, hawes, or sowrer sloes:
Or when they meant to fare the fin'st of all,
They lick'd oake-leaues besprint with hony-fall.
As for the thrise three-angled beech-nut shell,
Or chesnut's armed huske, and hid kernell,
Nor squire durst touch, the lawe would not afford,
Kept for the court, and for the king's owne board."

Our forefathers drew auguries from the Oak:—

"When the Oak puts on his gosling gray,
'Tis time to sow Barley night and day."

---

* Mr. Winch says that "enormous trunks and branches" are dug out of the peat-mosses "even among the recesses of the Cheviot mountains, a district which is now destitute of Oak." Essay Geogr. Dist. p. 6. This is incorrect. Oaks of small size occur in many of their recesses.—"Eight or ten feet below the surface of the moss in Jordan-law, there is a bed of wood, consisting wholly of hard wood, out of which bed oaks have been dug of a very great size, measuring, in one instance, twelve feet in periphery." Stat. Acc. Berwicks. Westruther, p. 66.

† Akeld, at the base of the Cheviots, may have its name from the same source. See Carr in Trans. Tynes. N. Field Club, ii. p. 150.

And it is a popular belief that when the Oak leafs before the Ash, there will be fine weather in harvest, and an abundant crop. The rhyme is less explicit in its meaning :—

"If the Oak 's before the Ash,
Then you 'll only get a splash.
If the Ash precedes the Oak,
Then you may expect a soak."

But one gentleman would set aside the augury, for he asserts that the Oak "always exhibits foliage before the Ash;" in which assertion I think he is wrong. See Notes and Queries, v. p. 581 ; and vi. pp. 50, 71, and 241.

The pretty galls which grow upon the leaves so abundantly are called oak-berries. Children eat them when they are immature, and have the look of cranberries ; but they deem them poisonous when they are old and large. The larger galls upon the buds are named oak-apples ; and these are sometimes applied as a cure for toothache. The acorn is named the oak-nut.

In a work by Radulf de Diceto, dean of London in 1183, De Mirabilibus Angliæ, as quoted by Leland in his Collectanea, i. 166, is the following relation :—"In the forest of Chiviot there grows a very large tree, not unlike a willow in its leaves and bark, which, at the height of a man from the ground, is divided into two great branches. One of these branches flourishes in the summer season, putting forth leaves, &c. like other trees, and bears acorns not unlike the oak ; but at the approach of winter, it loses not only its acorns and leaves, but also its very bark, and so remains naked and excoriated, like a dead withered stick, till on the return of summer, it recovers again its bark and leaves and acorns. In like manner, as this branch vegetates in summer, so the other vegetates in winter ; and as this grows dry and withered in winter, so the other assumes the same appearance in the summer months." An individual, who lived in Wooler in 1769, went in search of this tree, but unfortunately he could not find it. "I have made," says the honest man, who calls himself Tetralogus, "many long and laborious searches after it upon those mountains, but, alas! in vain ; whence I conclude it is no longer an inhabitant of those venerable hoary hills." Newcastle Literary Register, or Weekly Miscellany, 1769, p. 175.

531. Corylus avellana. The Hazel : The Nut-bush. Deans. —Hazel supplies the peasant with his walking-stick, and the rustic angler with his fishing-rod. To go agathering nuts in the autumn is a favourite employ with young people. To find a cluster of nine,—"a ninesome bobbin,"—is fortunate, for it is a love-charm to dream upon, and it has its prophetic suggestions. Hazels do well when they produce a good crop every alternate year ; and between the hazel and the corn crop the husbandman has noted a sympathetic correspondence. The time of ripening is the same ; and the barrenness or plenty of the one indicates a corresponding want or abundance of the other. The catkins are called, in Berwickshire, Hazel-palms.

26. **Carpinus betulus.** Hornbeam. In plantations.

27. **Pinus sylvestris.** The Scotch Fir. In plantations.—I have not been able to ascertain that the Fir has ever been found buried in our mosses. Yet, I presume, that it was a denizen of our primeval woods. That it is a native of the north of England admits of no doubt. See Whitaker's Manchester, ii. p. 45–48. But our present Fir, Sir Walter Scott says, writing in 1827, "is an inferior variety, brought from Canada not more than half a century ago." Quart. Rev. xxxvi. p. 580. It is a very old opinion that there were two kinds of fir-trees in Scotland. See Appendix, No. 1, to Pennant's Tour, 1769.—The handsomest specimen of the Fir in our district is one that stands at the foot of the garden at Ilderton. I can remember it as it was fifty years ago; and it was a deed of hardihood to reach the top and harry the nest of the raven that annually built thereon. So far as I remember, the nest was rarely reached by fair and honest means. The tree is still thriving; and it has a trunk 8 feet 6 inches in circumference.

The Fir influences the appearance of our district considerably, from the extent to which it has been used in making plantations. It must have been little short of a century since it was wont to be planted, almost solely, in large square or oblong platoons "on the cold and wintry-shaded side" of many of our hills; on low grounds, in less regular masses, in odd-cornered fields; and in belts so run as to give shelter on the farm. Few things could be more ugly; and schoolboys, when bird-nesting, penetrated their gloomy interior with some degree of awe. I have a very fresh remembrance of those on the farm of Ilderton,—and one, within whose ample bounds there was a decoy, was to me for ever the representative of the pathless wood in which stood concealed the Castles of Romance, and wherein knights lost their way, and were lured to adventure or wicked thraldom. Deeds of darkness were in reality enacted in and near these woods. In my boyhood—it must have been about 1811—a carpenter was murdered at about mid-day hard by, and his unavenged blood still cries from the ground; and at a very short distance there is a place which was called the Murder-Allers. We have in the Merse near Allanton the "Pistol-Plantings," so called from a traditionary story of a murderous attack on a farmer just where the Firs cast a dark gloom over the road even at noon. And a few miles from Belford may yet be seen a clump of Fir-trees, standing by the road-side, which is called "Grizzy's Clump,"—in commemoration of the feat of Grizel Cochrane of Ochiltree, who concealed herself within the clump disguised, attacked the post-messenger, and robbed him of the warrant he carried for the execution of her father, who had meddled too much in politics in the difficult times of James II.* These dull

* See Sheldon's Border Minstrelsy, p. 251. My friend, the Rev. J. Dixon Clark, laughs at the story, and believes it to be a story, for "the *old* road," he writes, "went considerably to the west of Fenwick Steads, and these trees stand in a field (called Bamburgh Hill, I am told) close to the *new* turnpike road." I hold criticism of this kind, on such a matter,

dark-green "plantings" have mostly disappeared, but straggling trees remain to tell of their existence in many places; and few sights are to me more impressive, on our silent wide moors, than a long irregular row of ungainly weather-beaten Firs that stand like sentries at an outpost, and mark where a former culture had in vain attempted to infringe on the heath.

The neighbourhood of fir woods is said to be beneficial to bees, for the furnishing of resin. By children the leaves are termed **needles and pins**.

28. **Abies pectinata**=Pinus picea, Linn. **The Silver Fir.** In plantations. Endures a moist or wet soil.

29. **A. excelsa**=Pinus abies, Linn. **The Spruce Fir.** In plantations. Loves a wet moorish soil, wherein it rises to a stately and elegant tree, of which there are many fine specimens in Blackadder plantations. A noble series lines the road between them. The large cones afford a favourite plaything to children.

37. *A. larix*=Larix europæa=Pinus larix, Linn. **The Larch.** In plantations. The Larch is more extensively planted in our district than any other Fir or Pine, and succeeds well. For information on whatever relates to the tribe, reference may be made to Selby's British Forest Trees. It sows itself, and may be considered as perfectly naturalized; but within a very recent time it has been observed that the species seems to have been affected with an ill-understood decay. See Notes and Queries, vi. p. 269.

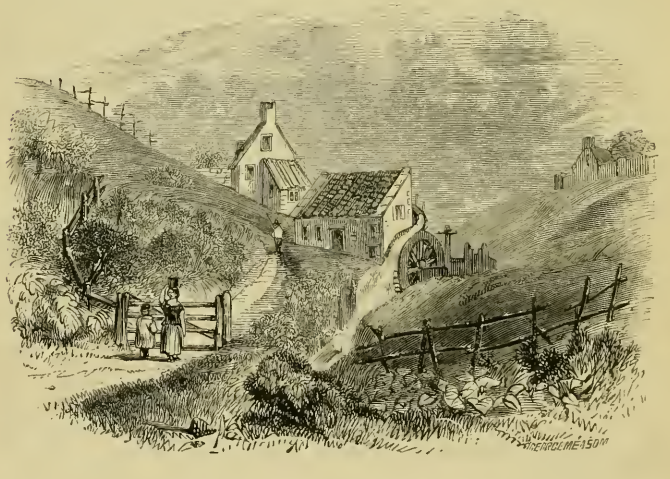
532. JUNIPERUS COMMUNIS. **Juniper: Jennyper bush.** Deans and on moors; and on some parts of our sea-banks, as at Hudshead. —The green branches of Juniper are, by some, preferred for smoking bacon. The abundance of pollen in the shrub is of frequent remark; and every peasant knows that it bears a three years' crop. The gathering of "Jennypers" is a rural period equally noted with the Blaeberry season. The berries are steeped in whisky to give it the flavour of Geneva. They are a popular medicine, and for this reason a winter store is frequently collected. It is their peculiar spicy and hot flavour that has given name to the shrub. "Bishop Grouthead, offended thereat, wrote Pope Innocent IV. such a juniper letter, taxing him with extortion and other vicious practices." Fuller, Ch. Hist. i. p. 359.

30. **Taxus baccata. The Yew.**—Clarke in Trans. Berw. N. Club, ii. 128. In pleasure-grounds and gardens. In Dunglass dean, where

---

to be akin to the dullard's analysis of a pun! Grizel Cochrane was undoubtedly there at the time and place appointed, for, as our learned Recorder affirms, there is, in these traditions, "a kernel of truth" (Trans. Tyneside Nat. Club, ii. p. 134), and we know that the kernel is the best part of the nut. The gallant highway Grizel became Mrs. Kerr of Morriston in Berwickshire. She is "represented in her picture as a gentle girl of seventeen, with handsome features of sweet expression, leaning on a table, on which are pistols, and the disguise she wore." Chambers in his Life and Works of Burns, ii. p. 117.

it may be indigenous, but from the price of a bow of Yew in 1514, viz. 2*s*., Mr. Raine has concluded that the tree must have been very scarce in the North of England. Hist. N. Durham, p. 292.—There is a very fine Yew in the garden adjoining the old Abbey of Dryburgh, which is supposed to have been planted at the time the Abbey was founded in 1136. On the 21st June, 1763, it measured 6 feet 11 inches in girth. "It was nearly of the same girth 8 feet high, where it divided into branches, but measured at the ground 9 feet 9½ inches. It was not much above 20 feet high, but appeared thriving and vigorous, though probably planted before the Reformation. A person who had known it for sixty years was not sensible of any great alteration in its appearance." Dr. Walker.—In 1835 the height of the stem to the branches was 10 feet 5 inches: the circumference at one foot from the ground 12 feet: at eight feet from the ground 11 feet 2 inches: and the diameter of the circle overspread by the branches was about 50 feet. The tree now (1844) begins to exhibit some symptoms of decay.



THE CASTLE MILL—THAT WAS!

MONOCOTYLEDONES.

1. *Anacharis alsinastrum.* Babington in Ann. Nat. Hist. Ser. 2. i. 83 and 86. pl. 8; iii. 62; vii. 425. Johnston in Trans. Berw. N. Club, ii. 287. Bot. Gazette, i. 28. Phytologist for 1850, p. 896 and 1013. W. Marshall in Phytologist, 1852, p. 705.—B. In the Hen-poo at Dunse Castle. In the Whiteadder from the Bluestane ford to near its confluence with the Tweed. (In Dunglass pond, J. Hardy.)—A neat plant which has much resemblance in its foliage, ramification, and habit of growth, to some species of Epacris. It produces its small pretty flowers throughout the summer, and until late in autumn. Although they may be properly described as minute, yet I have seen the surface of a large space of water whitened with them.

I found this plant on the 3rd of August, 1842, at Dunse Castle, in profusion. I noticed it nowhere else until 9th August, 1848, when I found a few tufts of it at Newmills in the Liberties of Berwick; and in September of the same year I discovered it, in abundance, at a still and deep reach of the Whiteadder between Whitehall and Edington mill. In the summer of the following year the plant was noticed in many intermediate localities; and in 1850, it had occupied almost every part of the river where the water ran sluggishly almost to choking. This was so much the case at Gainslaw Bridge, that the weed was dredged out with grapes. It multiplied and had become a noxious weed in 1851 and 1852; and now had spread itself below the bridge unto within half a mile of the river's confluence with the Tweed. No means seem to arrest its diffusion or progress; and it will be found that the principal opponent to its evil propensity to multiply is a spate—a large and heavy spate of a few days' continuance. This carries away large quantities. After one of them the plant is found strewed along the sides of the Tweed; and at the end of September 1852, I saw very many cart-loads of it thrown upon the shore at Spittal. The flooded state of the Whiteadder during the autumn of 1852, and winter of 1853, seems to have cleared the bed of the river of it for a season.

Mr. Marshall has given so complete a history of the successive discovery of the Anacharis in various localities in Britain, that I need not enter into that subject; but how are we to account for the genesis of the plant in Berwickshire? I cannot tell the exact date of its appearance in the Hen-poo*, but it was probably not more than a year or two previous to its discovery there; and assuredly it had scarcely occupied the Whiteadder until its presence was detected. I and others, taught to observe, had annually botanized along the banks of that beautiful water; we were familiar with all its phases and with all its vegetable tenantry; we had collected there many of

* I spell the name as it is pronounced. It is equivalent to Hen-pool or pow. Carr in Trans. Tynes. N. Club, ii. p. 150.

the treasures of our herbariums; we had sought there, many a time and oft, to find some rare and novel herblet to encircle a halo round our names, and give a celebrity to our favourite stream,—in vain;—and it is impossible for us to believe that the Anacharis could have escaped our keen and well-directed search. I assume the very recent colonization of the Hen-poo and of the Whiteadder by the Anacharis to be a fact,—whatever that fact may be worth; and could we conclude with Mr. Babington, that the Whiteadder plant is specifically distinct from the Udora canadensis of the lakes and rivers of North America, we should adduce it in proof of a belief of Humboldt's, that whilst some plants become more and more rare, and finally disappear, other new vegetable forms spring from the ground after long intervals of time to supply the vacant places. Views of Nature, p. 295*. But as both British and American botanists seem now to agree in considering the British and American Anacharis as identical in species,—a conclusion strengthened by the circumstance that fertile plants only have been found in this country,—the theory of successive deaths and creations becomes, perhaps, unnecessary; and fancy is left at freedom to carry the plant over the wide Atlantic on the wings of birds, or in ships, and their various importations. Yet she flies hampered with doubts and difficulties. The water birds of the Hen-poo and of the Whiteadder have but short flights to make when they visit the Tweed and the Till, the Leet and the Eye; but they have carried the Anacharis to none of these waters; nor has the daily traffic from the Whiteadder to all surrounding parts in the district, tended in any way to diffuse the plant.

1. Epipactis latifolia. Rare. B. The Hirsel and Castlelaw woods, Miss E. Bell and Miss Hunter.—R. Woods about the Fleurs, Dr. F. Douglas.

2. E. palustris. Rare. B. On Lamberton and Coldingham moors, A. A. Carr. The habitat at Marshall meadows is destroyed, as well as one near Lamberton Shiels.—D. Haiden dean.—N. In the pond-field above Spindlestone. July.

3. Listera ovata. Tway-Blade. Woods and rough pastures, not uncommon. D. In Haiden dean. In great profusion in the plantations about the mansion-house of Lowlynn. On Holy Island links, Dr. F. Douglas.—B. Woods below Claribad mill; and at Broadmeadows. Banks of the Eye at Coveyheugh, A. A. Carr. In Blackburn-rigg wood: in marshy spots on the sea-banks between Redheugh and Dulaw: and in a plantation near Milne-Graden, J. Hardy. Blackadder plantations. In a meadow near Oxendean above Cumledge: &c. July.—The leaves of this singular plant are sometimes placed one above the other, and they are liable to many deviations from their usual shape. Mr. Hardy has sent me a specimen in which the flower-stalk divides into two perfect spikes. There is some correspondency between the Tway-Blade and Hart's-tongue in their willingness to sport into monstrosities.

* See, on this interesting question, Schouw's work entitled "The Earth, Plants, and Man," p. 24. Lond. 1852.

4. L. CORDATA. On moors, not rare. B. Buncle wood, Rev. A. Baird. In the Press plantations, and in Blackburn-rigg wood: on the Dodd hill, and scattered over the Lammermuirs. In Harelawside wood, A. A. Carr. In a wood near Smailholm; and near Lightfield at Mellerstain, Dr. F. Douglas.—N. On Hedge-hope, &c.

5. L. NIDUS-AVIS. Rare. B. At Netherbyres, and in Dunglass dean, Rev. A. Baird.—N. In the dean at Twizell-house, P. J. Selby.

6. ORCHIS MASCULA. Cock's-kames. Very abundant on our sea-banks; on slopes in woods and deans; and in meadows and on heaths, flowering in April and May with the Primrose. A variety with pure white flowers occasionally occurs among its coloured mates: such we have received from a meadow near Horndean. The root has a strong herbaceous smell, and a slightly acrid taste. The under side of the leaves is silvered with numerous little vesicular glands placed in the interstices of the raised striæ that run in parallel lines along that surface. From the colour and shape of the tuber, the plant is called Dead-man's thumb; and children tell one another, with mysterious awe, that the root was once the thumb of some unburied murderer. They will also dissuade a comrade against pulling the herb by showing that the leaves are spotted like a toad's belly; and hence tainted with the reptile's venom. It is called Aaron's-Beard in some parts of the parish of Cockburnspath. The common name is derived from the likeness of the flowers to the comb of the Cock; and the colour and form of the spikes lead to the conjecture that the plant is the Long-Purples of Shakespere.

7. O. MACULATA. Adder-grass: Hens: Hen's-kames: Dead-man's-hand. In boggy ground, on moors especially, common. June, July.

8. O. LATIFOLIA. Cock's-kames. Common in boggy ground, and not easily to be distinguished from the preceding. The root, from its shape, is sometimes called the Deil's-foot and sometimes Dead-men's-fingers; but it is more generally known as Adam and Eve,—the tuber which sinks being Adam, and that which swims being Eve. Cain and Abel is another name for these tubers, Cain being the heavy one. They are, or rather sometimes were, used as love-charms. If a woman wished to secure the affection of any young man on whom her heart was set, she put, unseen, one of the tubers into the pocket of his dress, and thus he became so enchanted that he must follow the intriguer wherever she went! This is the very property that Shakespere ascribes to his Love-in-idleness.

9. O. CONOPSEA=Gymnadenia conopsea. Grassy banks in deans, and on heaths, not uncommon, "scenting the atmosphere with its fragrance." D. Sea-banks at Hudshead. Longridge dean.—B. Castle-hills. In the plantation above Newwaterhaugh. Banks of Coldingham loch; and of the mill-pond of Northfield. Banks of the Tweed at the Holmes and at Birgham, F. Douglas. Edington moor, &c. July.

10. O. VIRIDIS=Habenaria viridis. Rare. B. On the banks of Coldingham loch, sparingly, P. J. Selby. Upland pastures to the north

of Blackburn-rigg wood, tolerably abundant but scattered: on the south side only one specimen was detected. J. Hardy. Amongst some natural wood opposite the village of Longformacus.—N. Doddington moor. July.—"The solitary state of this plant, mentioned in Dr. Johnston's Flora of Berwick-upon-Tweed, ii. p. 288, may, perhaps, be owing to its having attained, in the stations in which it occurs, the limits of its distribution. In Durham, where it abounds, it is as gregarious as its congeners. The redness of the spike appears to be a characteristic feature in upland plants; the panicle of corn in hilly districts having generally a reddish tinge, and Mr. Shuttlesworth, remarking on this plant growing in the alpine pastures of Switzerland, observes,—'in alpibus spica sæpe rubescit.' Mag. Zool. and Bot. ii. p. 18." J. Hardy.

11. O. BIFOLIA = H. bifolia. Smith's Pl. of Kent, 48.—In the green oases of most of our moors, and in the meadow plats by the side of our burns, in heathy soil, this pale and sweet-scented Orchis is often met with, after the hay has been cut and piked. D. Bogs below Shoreswood: Ancroft moor: Doddington moor, &c.

12. HABENARIA CHLORANTHA. Bromfield in Phytologist, iii. 904 and 992.—B. Banks of Coldingham loch: Houndwood on the verge of Coldingham moor. July.

13. IRIS PSEUDACORUS. Water Flag: Yellow Sedge: The Segge. Sides of ponds, burns, and marshes, frequent, forming beds. The plant is used by coopers. The dried leaves are put between the steps of barrels to prevent leakage. Under the name of Swords they furnish youthful warriors with a weapon. On the banks of the Whiteadder and Blackadder bundles of Seggs tied together used to be employed by children learning to swim. Some of our common people identify our plant with the Flags by the river's brink, in which the ark of bull-rushes containing the infant Moses was secreted. J. Hardy.

2. *Narcissus pseudo-narcissus.* The Daffodil. Naturalized in the plantations and deans near the residences of our gentry.—"In a retired spot, on the opposite side of the river, about a mile from Kelso, is the small hamlet of Maison-Dieu, where, from an early period, there existed a hospital, or asylum, for pilgrims, and for the diseased and poor. On the spot which was once its garden, Daffodils and Primroses still continue to spring up annually." Morton's Teviotdale, p. 320.

3. *Galanthus nivalis.* The Snowdrop. In plantations about the residences of our gentry, seldomer, and in less profusion, than the florist might deem desirable. Very abundant on the banks of the Leader at Drygrange, F. Douglas. Perhaps wild in Dunglass dean. Professor Arnott will not allow the Snowdrop to be native. Burns would seem to have had no doubt that it was:

> "The Snawdrap and Primrose our woodlands adorn,
> And Violets bathe in the weet o' the morn."

14. Convallaria polygonatum = Polygonatum officinale. Solomon's Seal.—D. "On Kyloe rocks, a few miles south of Berwick," Mr. A. Bruce. This would appear to be its most northern limit. See Watson's Cyb. Brit. ii. p. 470.

C. polygonatum is a native of the north of Europe, growing from fissures in the face of its precipices:—"habitat," says Willdenow, "in Europæ septentrionalis præcipitiis, rupibus." It is of frequent occurrence in Sweden. The flowers are "well smelling;" and from the root, which abounds in starch, the Satagundi make a kind of bread when in lack of corn. This "root" is a horizontally creeping knobby rhizoma, about the thickness of a goose-quill, and some inches in length. Although the rhizomata of allied species were mixed and undistinguished in trade undoubtedly, yet it was the root of C. polygonatum in especial which the pharmacologist sold under the name of "Radix Sigilli Salomonis," and to which such a "singular vertue" was ascribed in "healing up wounds, broken bones, and such like." It was indeed esteemed such a good vulnerary that it coped successfully with the secret unguents of the noble ladies of romance, with which they were wont to cure their knights suddenly of wounds that would have sent modern heroes on a twelvemonth's furlough: and the said root had also the virtue of curing wounds that ladies, in the good olden times, were subject, it seems, occasionally to receive. "The root of Solomon's seale," says Gerarde, "stamped while it is fresh and greene, and applied, taketh away in one night, or two at the most, any bruise, blacke or blew spots gotten by falls or women's wilfulnesse, in stumbling vpon their hasty husbands fists, or such like."

The plant was first introduced into England in Gerarde's lifetime, and previous to 1597. Carolus Clusius sent it from the "wooddy mountaines of Leitenberg, aboue Manderstorf," to London, "to Mr. Garth a worshipful gentleman, and one that greatly delighteth in strange plants, who very louingly imparted the same" unto Gerarde. This worthy herbalist has given a good figure of the plant under the title of the "Sweet smelling Soloman's Seale."

The first notice I find of it as indigenous to England is in Johnson's edition of Gerarde, published in 1633. It is therein (p. 905) stated to grow "in certaine woods in Yorkshire called Clapdale woods, three miles from a village named Settle."—There is no mention of any authority; nor is the plant mentioned in any work of Johnson's published subsequently, although the same habitat is given, in one of them, for a variety of the Primrose.

It is probable that Johnson derived his information of the Yorkshire habitat from Thomas Willisel, as Dr. Merrett avowedly did. Willisel was a man of humble station in life, and of mean attainments in botanical science; but his innate love of plants, and of created things in general, was strong and living, and led him to devote his

1. Iris fœtidissima. Pond at Anton's-hill, Dr. R. D. Thomson in Stat. Acc. Berwicks. p. 54.

2. Convallaria majalis. Solomon's Seal. Planted occasionally in policies.

life to their search; and his love was rewarded by many discoveries. He travelled, at the sole expense of Dr. Merrett, for five successive summers, through various parts of Britain; and, in one of these simpling journeys, he found the Convallaria under notice "growing on the ledges of the scars or cliffs near Wherf and Settle in Yorkshire." This was published in 1667. In 1671 the good old man was John Ray's guide to the station, and the visit of the latter makes the spot classic to the British botanist. "Nos in rupibus et petrarum fissuris invenimus in Angliâ non longe a Settle Eboracensis provinciæ oppido," says Ray in his Historia Plantarum, i. p. 665; but in his "Synopsis," p. 148, he omits his personal visit, and allows the habitat to stand on Willisel's single authority.

The facetious Jacob Bobart, superintendent of the Botanical Garden at Oxford (Pulteney's Sketches, i. p. 313), was the second person to find our plant indigenous "in the woods on the north side of Mendip hills," Somersetshire. This station was published by Ray in 1677.

A long interval elapsed—and then a habitat nigh to the original one was added by Mr. Caley in a "rocky part of Sykes' wood, near Ingleton, Yorkshire." Caley was, I believe, a botanist of like station and tastes as Willisel, and employed as a collector by Dr. Withering of Birmingham, in whose "Botanical Arrangement" the habitat was published in 1796, and probably in 1787,—the date of the 2nd edition of his excellent and well-known work.

The Convallaria is figured in the 4th volume of "English Botany," pl. 280, from a specimen "gathered by Mr. J. Rayer in Kent." This volume was published in 1795; and in the "Flora Britannica," published in 1800, Sir James E. Smith informs us that the species had been found by Mr. Wigg near Yarmouth. In the "English Flora" we were informed that this latter station was given in error; and, in the same great work, we find the habitats in Kent particularized by Mr. Graves, viz. "woods near Bexley and Dartford." I very much doubt if the plant can be considered indigenous there,—the authority is not altogether without suspicion,—and the figure in "English Botany" represents a much larger and more luxuriant plant than suits the Convallaria to assume in its native site on the face of cliffs *.

It was in the "English Flora" (1824) that we were apprised of the plant being a native of our district, in which it was first of all discovered by Mr. Arthur Bruce on "Kyloe rocks, a few miles south of Berwick." The date of the discovery I cannot ascertain, but it must have been long previous to its publication. And there it grew unseen again, and careless of its wasted beauty, until June 1848, when the shy thing discovered itself, on the same day, to four members of our Club. These were Messrs. Broderick and Selby, Em-

* These notes on Convallaria polygonatum were written before the publication of Mr. Watson's Cybele Britannica, or Dr. Bromfield's Flora of Hampshire (Phytologist, 1850, p. 960); but by reference to them the reader will find that recent habitats assigned for this plant are very suspicious.

bleton and Tate; and the incident imparted an unwonted interest to the meeting, and gave rise to these notes.

Arthur Bruce is further associated with the botany of our district. He was the first to observe the Eriophorum pubescens in Britain, and he made this addition to its Flora "at Frogden" in Berwickshire, the birth-place of the celebrated agriculturist Dawson. See Smith's Eng. Flora, i. p. 68.—Mr. Bruce appears to have been a land surveyor. He was the author of a "General View of the Agriculture of the County of Berwick, with Observations on the means of its improvement." It was drawn up for the consideration of the Board of Agriculture and Internal Improvement, and published as an Appendix to Lowe's General View, 1794, 4to. He tells us therein that he had been employed, for many years, in conducting agricultural improvements in Berwickshire, p. 102; and then doubtless made his botanical discoveries. My late kind friend Dr. Neill wrote to me: "I was well acquainted with Mr. Arthur Bruce. He was Secretary to the old Natural History Society of Edinburgh, and one of the mildest and most amiable of men, and a devoted practical naturalist. The leading members of the Society were Lord Webb Seymour, Mr. Horner, Lord Brougham, and Mr. Jeffrey,—the first two long since gone, the other two still remaining*, —all distinguished in their departments. Mr. Bruce admired their talents, but thought them too speculative. Professor Jameson greatly disliked their liking politics, and this disagreement gave rise to the Wernerian Society."—"Mr. Bruce died in the 80th year of his age, respected and beloved by all who knew him. His life was singularly blameless and tranquil." Dugald Stewart. He bequeathed, in 1805, his whole collection of dried plants to Sir Jas. E. Smith. See Memoir and Correspondence, i. p. 431 †.

15. Allium arenarium = A. scorodoprasum. Don, Wern. Mem. vi. 6.—B. Plentiful in some rough and stony ground near the mouth of the Whiteadder; and in large abundance in the plantation above Newwaterhaugh. June.—The root bears bulbs of a purple

* The date of Dr. Neill's letter is 15th Oct. 1849. Since then Lord Jeffrey has died. He had a strong leaning to natural science in general, and an especial love for scenery. In one of his letters he writes, when in his 74th year:—"My affections and my enjoyment of beautiful nature, I thank Heaven, are as fresh and lively as in the first poetical days of my youth; and with these, there is nothing very miserable in the infirmities of age."

† It has been asserted that Mr. Bruce was also the first to discover the still rarer Convallaria verticillata in Britain. Eng. Bot. ii. pl. 128. And Scotch botanists amuse one another with telling a good story o' the finding o' it. Mr. Bruce having caught a glance of the Convallaria in the Den of Richip, descended from his pony, waved his hat, and hallooed to his companions "Eureka! eureka!!"—while the pony quietly ate up the best specimens! The story has some foundation in reality, but the rare plant was discovered by the Rev. William M'Ritchie, the worthy minister of the parish of Clunie. He directed Mr. Bruce to the habitat in the Den of Richip. Stat. Acc. Scotland, ix. p. 237. Mr. Bruce found Isoëtes lacustris and Subularia aquatica, in the summer of 1792, on the loch of Clunie.

colour similar to those of the flowered head. They are covered with the outer membranous coat, and attached to the base of the root by fibrous radicles. The leaves begin to decay as the plant begins to flower. Their margins are armed with minute serratures, only visible with a magnifier.

16. A. OLERACEUM. D. On the Heugh of Holy Island, Winch. —N. On the rocks at Spindlestone, R. C. Embleton in Trans. Berw. N. Club, ii. 356.—B. Lumsden dean, G. R. Tate.

17. A. VINEALE. Don in Wern. Mem. vi. 9.—Crow Garlick. —Dry banks, rocky ridges, and borders of fields, frequent, more especially towards the sea, but seldom seen in flower.

18. A. URSINUM. Ramps: Wild Leeks. Moist woods and deans, abundant and gregarious, where the beauty of its white flowers is dimmed by the strong smell of garlick exhaled from the herbage. It constitutes in May a principal part of the profuse vegetation of Dunglass dean. It is reckoned poisonous. Cows that eat it have their milk and butter tainted and rendered useless. May, June.

19. SCILLA NUTANS = Agraphis nutans. Wild Hyacinth. In woods and deans, common. May, June.

20. S. VERNA. B. Sea-banks at Gunsgreen, plentiful, and where it was discovered by the late Rev. A. Baird. It rarely exceeds three inches in height with us. June.

4. *Tulipa sylvestris.* Wild Tulip.—B. Naturalized in the wood at Netherbyres, Rev. A. Baird. "Found in great profusion in a small plantation near the village of Hassington. There is no gentleman's house or place or garden near this spot, whatever there may once have been. The plant at present seems, from its quantity, to have been long established there." Miss Hunter.

21. JUNCUS EFFUSUS. Wet pastures; by road-sides and rivulets.

---

3. Allium schœnoprasum. Lightf. Fl. Scot. 180. Huds. Fl. Ang. 2nd edit. 649.—Chives: Scythes: Syvees.—"By Fast Castle," Dr. Parsons. Often sought for and in vain, but a lover of localities may be induced to renew the search, remembering that Fast Castle, besides much else of interest associated with it, is supposed to be the Wolf's-Crag of the Bride of Lammermoor.

4. Erythronium dens-canis. Dog's-tooth Violet.—Seems to have almost naturalized itself in the grounds at Ayton Castle. March 10, 1851.

5. Tofieldia palustris.—"About two miles from Berwick, by the side of a rivulet, in a boggy ground, not far from the road leading to Edinburgh, we found a sort of *Pseudo-asphodelus* which I had never before seen, much less than that common in England, having, as I guess, white flowers in a spike, to which succeed roundish seed-vessels. The stalk of the spike is naked, or not having above one leaf, the spike itself short, the root fibrous, as that of the common." Ray, Select Remains, p. 182. Also Huds. Fl. Ang. 2nd edit. p. 157.—Withering gives as a locality "near Berwick," Bot. Arrang. ii. 358; but he undoubtedly does so on Ray's authority. And Robson (Br. Flor. p. 143) says—"by a brook not far from Berwick in Scotland," quoting also from Ray without acknowledgement.

22. J. CONGLOMERATUS. Wet pastures, meadows, and by ditches.

23. J. GLAUCUS. Wet pastures, and damp places on road-sides.

The preceding three species are called Rashes, Rashers, and sometimes Thrashers. With their stems, carefully pulled, children make grenadier caps, swords, whips, and dovecots.

> "Down in yon hollow, which the banks enfold,
> We pluck'd the marsh-flowers by the fountain cold;
> Or pull'd the *Rushes* from their watery bed,
> To plait the belt, and helmet for our head."
>
> G. HENDERSON. Scenes of Boyhood, p. 12.

Beehives are thatched with rushes; and they are employed in the covering of corn. The pith was wont to be a wick for the "cruizy" or lamp of the spectacled old dame. The cruizy now-a-days, however, is an utensil rarely seen. In bogs J. effusus is a frequent accompaniment of a well-head or "babanqua"; and in mists and in storms, shepherds on our wide moors guide themselves by such land-marks. One may step safely over a bog by using the rush bush for his footing. "Step on a Rasher bush, and it will no deceive ye."

"His good peoples lawfull recreations" on Sundays having gone into disuse, James, in 1618, issued a declaration to revive and encourage the same. And in future women were to have "leave to carry rushes to the church for decorating of it according to their old custom."

> "Bring from the marish Rushes to o'erspread
> The ground, whereon to church the lovers tread."—BROWNE.

There are nice papers on "Rush-Bearing" in Hone's Every Day Book, iii. pt. ii. p. 279; Chambers' Edinburgh Journal, Sat. Oct. 19, 1844; and Notes and Queries, ii. p. 197*.

24. J. ACUTIFLORUS. Sprat or Sprot. Watery places, common. The provincial name is perhaps derived from the German spröde brittle. The rush is much valued as a food for cattle, and forms the chief part of "Bog hay" employed for litter and winter food. For the assurance of those who have to wend their way over moors and fens and moss, you are told that there is not much danger of lairing where Sprats grow abundantly.

25. J. LAMPOCARPUS. Common on all our moors, growing on comparatively dry and solid ground.

26. J. ULIGINOSUS=J. supinus. Turfy bogs, and often in the cuts made to drain them, common. Generally viviparous.

27. J. SQUARROSUS. Bent: Rose-Bent: Stool-Bent.—Common on all our moors. "Totus rigens foliis patentibus;" and hence the name of Rose and Stool prefixed to distinguish this from other Bents. In the Lammermuirs there is a place called Benty Dodd, perhaps from the abundance of this plant on the moors in the

* "Junci recentes per cubiculum sparsi temperant aërem et frigidos vapores ad caput submittunt, quibus somnolentos efficiunt." Sibbald. Scot. Illust. ii. p. 32.

vicinity*. In old writers, however, Bent is synonymous with moor or heath.

"They lighted high on Otterburne,
Upon the bent sae brown;
They lighted high on Otterbourne,
And threw their pallions down."

And Allan Ramsay in a fine sketch of a pretty scene in pastoral life,—

"As she skift o'er the bent knowes,
Gawn to the bught to milk the ewes."

The large tough patches which this rush forms are called by the farmer Bentknots, and are serious obstacles to the plough in the process of converting the moorlands into pasture ground. The wiry leaves afford a seasonable morsel to hill sheep, springing so early as January. —"J. squarrosus, in montosis Scotiæ, victum præbet ovibus utilissimum hyberno tempore; gramen, si ullum aliud, maxima vi frigoris, sempervirens. Radices crassas avidè etiam effodiunt." Walker.

28. J. CŒNOSUS. Salt marshes.—B. Abundant on the sides of the Tweed from the Old Castle to the Grove-house. In a bog within high tides between the Coveshore and Dunglass burn foot, J. Hardy. —D. Marshy ground at Goswick, and on similar parts of the coast. —I am uncertain whether our species is J. cœnosus or J. compressus. See Flora of Berwick, i. p. 79. Professor Arnott unites the two species.

29. J. BUFFONIUS. Abundant on all moist gravelly places, covered with water during winter; and at the sides of ponds. July, Aug.

30. LUCIOLA SYLVATICA = Luzula sylvatica. Wood-Grass.—Common in deans, and very ornamental. May, June.

31. L. PILOSA. On banks in deans, and in woods, common. May.

32. L. CAMPESTRIS. Cuckoo-grass: Peese-weep-grass: Blackcaps.—In pastures, common, flowering with the Primrose and the Dog Violet, and pulled by children to give variety to the spring nosegay.

33. L. CONGESTA = Luzula multiflora. Bromfield in Phytologist, 1850, p. 1002.—Var. α. multiflora = L. sudetica, Berw. Fl. i. 81, pl. 2.—Var. β. congesta.—In rough boggy ground. β. is most common; and it is found, in a modified form, growing in tufts in fir plantations, in very dry ground.

34. NARTHECIUM OSSIFRAGUM. A welcome plant on our moors, where it grows in turfy bogs, and is not uncommon. July, Aug.

35. ALISMA PLANTAGO. Water-Plantain. Ponds and ditches, common. July.

36. A. RANUNCULOIDES. Turfy bogs, rare. B. In the ditch at the foot of St. Abb's-head, and in the pond on the Head. Loch Lithtillum, Dr. R. D. Thomson. In a bog below Lintlaw farm house, Dr. R. Dunlop.—D. Holy Island lough.—N. In the pond above Spindlestone. July, Aug.

* A local proverb says,—"The earliest har'st (harvest) that e'er was seen, was seen at Benty-Dod."—It is one of the bleakest places in Lammermoor, and its harvest was so early that they were shearing the crop there on a New Year's morning. Trans. Berw. N. Club, ii. p. 101.

37. TRIGLOCHIN MARITIMUM. Abundant on marshy spots on all our coast, and at the sides of the Tweed within the influence of the tide. Summer.

38. T. PALUSTRE. Bogs and marshy places. Aug.—When bruised the plant has a fœtid taste and smell, similar to that of Sinapis tenuifolia. What Mr. Wilson says of the root (Hooker Brit. Fl. p. 153) is in accordance with our own observations. It is difficult to conceive in what way the stigmas are fertilized unless the pollen is discharged by some elastic force of the bursting anthers, for these are so short and so situated as to make a contact between them and the pistils impossible.

39. TYPHA LATIFOLIA. Reed Mace: Black-headed Laddies. Once common, but now its localities are not many. B. In the mill-pond of Grange-burn; and of Foulden Newtown. Greenwood moss, parish of Coldingham, G. Henderson. In an old marl-pit at Craig's walls; in a pond near Crumstane; Lithtillum loch; in the Eden, &c. It once gave a character, from the extent of surface it covered, to Billymire, where it is scarcely now to be found, for the mire, which was about six miles in length, is converted into arable land. There is an account of the mire in Carr's Coldingham, p. 31.—D. In the low at Goswick; and in the ditch along the line of the railway below Haggerston. July.—Children carry the flowered plant in processions; and burn the dried catkins for tapers.

40. SPARGANIUM RAMOSUM. Common in ditches and ponds. July, Aug.—This, as well as the Yellow Iris, is called the Segge; a name given with more propriety to some of the larger Carices.

41. S. SIMPLEX. B. In the stream below Chatterton ford, on the farm of Crunkly, G. Henderson.—R. Pond in Fleurs' park, F. Douglas.—D. Holy Island, at the margin of the lough.—N. In Spindlestone pond. July, Aug.

42. S. NATANS. Linn. Fl. Lap. 280. B. In the foss at the head of Coldingham loch: Northfield mill-pond. Old peat pits and ponds on the Lammermuirs, J. Hardy. In the Eden, near Greenknowe, F. Douglas.—N. In watery spots among the copsewood on the sides of the glen below Heathpool linn.

43. ARUM MACULATUM. Cuckoo-pint. B. Grows in great profusion in the woods at Blanerne, and evidently wild, W. Dunlop. Stitchell, F. Douglas. Near Netherbyres, Rev. A. Baird. May.

44. LEMNA TRISULCA. Ponds, occasionally.

45. L. MINOR. Duckweed. Ponds and ditches, often covering the surface to a large extent,—the "muddy vesture of decay."

46. POTAMOGETON NATANS. Pickerell-Weed. Ponds and still waters, common. July.—It is a mystery which the herdboys in our muirlands puzzle themselves to explain, that leaves of this plant will not wet. They float flat on the surface of the water, and afford a grateful shelter to many mollusks and insects.

47. P. OBLONGUM*=P. natans, var. 2. With. Bot. Arrang. ii. 212. In ditches, shallow ponds, and drains on all our moors. June–Aug.

48. P. PLANTAGINEUM. Eng. Bot. Supp. pl. 2848. Babington in Berw. Club Trans. i. 178; Prim. Fl. Sarn. 99.—B. Ferney-rig marsh in the parish of Eccles, Dr. R. D. Thomson, who had distinguished the plant as a species, and communicated specimens to me, long previous to its publication as a native of England.

49. P. HETEROPHYLLUM. B. Abundant in Coldingham lough.

50. P. LUCENS. In the Tweed, especially abundant in the still water above the Union chain bridge, and it flowers at a season when a visit to that beautiful work is made with most pleasure. "In the summer season," says the Rev. J. Edgar, "it is much visited by strangers and generally admired. The most commanding view of it is obtained from the English side, about half way up the hill on the road which leads from the bridge to the village of Horncliffe. There, on a summer evening, the still and pellucid waters of the silver Tweed, which assume here the quietude and smoothness of a lake; the light and fragile form of the bridge floating in the air, with its shadow reflected from the stream beneath; the tasteful clumps of planting which adorn the banks; the trees and woods of Paxton and Tweedhill, in all the pride of vegetative luxuriance; and the fishermen in their boats plying at their vocation on the unruffled waters,—present a scene highly beautiful and imposing." Stat. Acc. Berwicks. p. 162.

51. P. RUFESCENS. B. In the Eden, and in ditches leading into it.—N. Swinhoe lough south of Kyloe. Aug.

52. P. PERFOLIATUM. Common in the Tweed and Whiteadder, and in large ponds. July.

53. P. CRISPUM. Ponds and still waters, common.

54. P. PUSILLUM. In the Tweed, Whiteadder, and Eden, in various places.

55. P. GRAMINEUM. R. Yetholm lough, R. C. Embleton; and in pools at the W. end of Hoselaw loch, Rev. J. Baird.

56. P. PECTINATUM. Abundant in the lower parts of the Whiteadder, and in the Tweed. D. Holy Island lough. July.

57. P. FILIFORME. B. In Coldingham loch. July.

58. ZANNICHELLIA PALUSTRIS. In ponds, not uncommon. Aug.

59. ZOSTERA MARINA. Covers the sandy flats between Goswick, Fenham, and Holy Island. Sir Walter Calvery Trevelyan gave me some specimens gathered on the shore of the island which he distinguished from the true Z. marina by their much smaller size.

* Potamogeton is made masculine by most, and neuter by others. We follow Smith in doing so; but it appears that the word is properly feminine. See Dr. Adams in Murray's North. Flora, p. iii. of the Appendix.

Probably our plant may be Z. marina β. angustifolia. It is not Z. nana.

60. SCHŒNUS NIGRICANS. Turfy bogs, not common, many stations that it occupied a few years ago being now under the plough. B. In the ravine above Ross: Lamberton moor: Coldingham moor below Lumsden.—D. Learmouth bog.

61. CLADIUM MARISCUS. N. In abundance in Learmouth bogs, Dr. F. Douglas.—B. Lithtillum loch, sparingly, Dr. C. Douglas.

62. ELEOCHARIS PALUSTRIS. Marshy places, and at the sides of rivers and ponds, forming dark-green rushy plats or borders. June, July.

63. E. MULTICAULIS. Marshy places. I have a "Berwickshire" specimen gathered by Dr. Dunlop, probably in the parish of Buncle. It is considered to be a variety of the preceding by Wahlenberg. Fl. Lapp. p. 14.

64. SCIRPUS CÆSPITOSUS. Deer's Hair. Abundantly on all our moors. "It abounds on deep mossy moors, almost to the exclusion of heath. For the purpose of allowing its growth, the moors are repeatedly burnt, as when the heather has grown three or four years, this grass decreases in value and abundance. The herbage does not come very early. This season, which is a favourable one, it was reckoned soon in the month of May." J. Hardy. Shepherds often confound this plant and Eriophorum vaginatum in their remarks on their merits.

65. S. PAUCIFLORUS. B. Langstruther and Braid bogs, and Eweside, abundant, J. Hardy. The station on Castle-hills is now destroyed.

66. S. FLUITANS = Isolepis fluitans. Ditches and ponds, rare. N. Moor west of Belford, plentiful, Thompson.—B. In deep pools in Penmanshiel Moss burn, J. Hardy.

67. S. LACUSTRIS. Bull Rush. Sides of rivers and ponds, frequent. July.—Where it grows abundantly, the Bull Rush is cut annually and sold to the coopers, who make use of it in the manufacture of casks and vessels intended for holding liquids.

68. S. SETACEUS. Wet sandy and gravelly places, not uncommon on moors. A neat species. July, Aug.

69. S. CARICINUS = Blysmus compressus. Berw. Fl. i. 15. Boggy spots in pastures. B. Castle-hills, at the stile below Gallows-hill. Sides of the Whiteadder at the head of Tibby Fowler's glen, and occasionally thence upwards to Hutton Hall mill. Greenlaw dean, and at Lennel, Thos. Thomson. Plentiful in a bog west of Blanerne house.—D. Above the Coves on Holy Island, large and fine.—R. Sides of the Tweed in Fleurs' park, F. Douglas. July.

70. S. RUFUS = Schœnus rufus = Blysmus rufus.—D. Salt marshes at Beal, abundant.—B. In a marsh on the sea-shore between

the Cove shore and the foot of Dunglass burn, J. Hardy. Aug., Sept.

71. S. MARITIMUS. Salt marshes. B. Mouth of the Whiteadder: in the ditch at Newwaterhaugh.—D. Yarrowhaugh. Coast near Beal.—N. Mouth of Warn burn, F. Douglas. July, Aug.

72. S. SYLVATICUS. River sides and damp woods, not common. B. and D. Sides of the Tweed above the Union bridge, plentiful. Sides of the Whiteadder near its mouth.—B. Birgham wood, Dr. R. D. Thomson. Banks of the Eye below East Reston, A. A. Carr. —N. Wood immediately above Ford bridge on the Till, Dr. F. Douglas; and on the Till at Wooler bridge. July.

73. ERIOPHORUM VAGINATUM. Turfy bogs, and common on our elevated moors. April.—This has various appellations in the Lammermuirs. While just springing it is known by the name of Muir-crops, Moss, Purlaing, and Line or Ling. This latter name it shares with the Deer's-hair (Scirpus cæspitosus). When it has run to seed it is called Cat-tails. The plant, while it is putting forth its fresh herbage, in the opening of the year, is the chief support of upland flocks, and without its aid, in late seasons, they thrive but indifferently. In favourable years it begins to sprout as early as the end of January and beginning of February, but its general time of springing is in March. Black-faced sheep are especially fond of it, scent it out, and crop it with such avidity that it looks as if it had been "cut with a hook." They will spend days in the middle of mosses, browsing on the favourite luxury, which is famous also for its renovating powers. Some herds maintain that if a weak sheep obtain but two or three mouthfuls of the fresh herbage, there will be no danger of its recovery. The farmers of an age scarce expired, were accustomed to cast out their feeble sheep in spring to the mosses, and leave them to range at will, till, by the aid principally of this grass, they had recovered. In many years the sheep sent up from the low country to summer in the hills, are fat before "clipping-time"; and the grass renders others more profuse of milk. The quantity of fodder it affords does not cease with the first growth, for it braids and grows like grass or corn that has been eaten over; and after the seed has been ripened, which is about the end of July, it undergoes a second spring. Then, however, its utility is less felt, for now the muir pastures are all flush with many flowers and grasses. J. Hardy. See also Ray's Philosophical Letters, p. 218; and Syn. Stirp. Brit. p. 436.

"This plant," say Messrs. Bailey and Culley, "grows in wet mossy places; it generally springs in February and March. The sheep are remarkably fond of it, not only the flowering stem, but the roots; and will scratch away the mossy soil six or eight inches deep to obtain it. We have seen them working up to the eyes for this purpose. The shepherds tell wonderful tales of the nutritive powers of this plant; asserting that sheep, reduced by hunger, will recover faster, and thrive much better upon this plant than turnips. It is certainly a valuable plant for three or four weeks; but after it has

flowered, the sheep totally neglect the flower stem (*moss*), and depasture only on the leaves (*ling*)." View of the Agric. of Northumberland, p. 145.

74. E. ANGUSTIFOLIUM et E. POLYSTACHION. Cotton-grass.—I have followed Professor Arnott in placing these names under one species, having been unable, in many cases, to decide to which to refer my specimens. Those which seem decidedly to belong to E. polystachion are not of common occurrence, and are found only in very wet ditches or peat bogs. Our herds, I believe, do not distinguish this species, even as here received, from the preceding; and the properties of the plants are undoubtedly the same. They constitute a very marked and pleasant feature in the muirland landscape, where often a large expanse of boggy ground is whitened with their cotton-like seed-tufts. The grass flowers in April, but the tufts remain until the solstice or later. "Paludes mense Junio ex pappo albent." Linnæus.

75. E. PUBESCENS = E. latifolium. Arnott in Loudon's Mag. Nat. Hist. i. 240. Berw. Flora, i. 17.—Bogs, not uncommon, especially on moors. June.—This is surely the species that Dickson first particularly distinguished as E. polystachion. See Withering's Bot. Arrang. ii. p. 72. Our plant is aptly described by Wahlenberg, Fl. Lapp. p. 19.

76. CAREX DIOICA. Spongy bogs, common. May, June.

77. C. PULICARIS. Frequent in bogs. June.

78. C. OVALIS. Marshy meadows, and generally in the same localities as C. intermedia. June.

79. C. STELLULATA. Boggy grounds, common. May, June.

80. C. CURTA. Bogs, not uncommon in our district. June.

81. C. REMOTA. Damp shaded places. N. Banks of Woolerwater below Langley-ford: base of Yevering Bell.—B. Banks of Berwick burn; and Sisterpath dean in Penmanshiel wood, J. Hardy.

82. C. PANICULATA. Bogs. D. Haiden and Allerton-mill deans.—N. Foot of Yevering Bell.—B. Coldingham moor, and in Littledean plantations, A. A. Carr. In an Aller-bog near the head of the Tower burn on the farm of Hoprigg: Braid bog on Penmanshiel moor, J. Hardy.—The large tufts formed by this and other coarse cæspitose grasses are called Hassocks, and afford firm footing to the botanist in his curious search through the bog. See Promptorium Parvulorum, i. p. 228.

83. C. TERETIUSCULA. "This accompanies C. paniculata in a bog, called the Braid bog, on Penmanshiel moor. It grows in small, and, at times, separate bushes." J. Hardy.

84. C. VULPINA. Wet places, not very common, but scattered over the district. June.

85. C. ARENARIA. Sea-Bents.—Abundant on the links of our coast S. of the Tweed, where it helps to bind the loose sands. On

sandy plats of the coast of Berwickshire. June.—The root creeps beneath the sand in long cordlike shoots which affix themselves more firmly by fibrous radicles; and at intervals the shoots throw up new plants, which are always planted, as it were, in straight lines.

86. C. INTERMEDIA. Marshy spots in moors and meadows, frequent. June.

87. C. CÆSPITOSA=C. vulgaris=C. Goodenovii. Fl. Berw. i. 202. —Bogs, common, especially in the boggy grounds around pools or lochs. June.

88. C. RIGIDA. "On the windy top" of Cheviot, plentiful.

89. C. ACUTA. D. Sides of the Tweed from West Ord to the Chain-bridge, plentiful, and in some places not exceeding two or three inches in height.—B. Side of the Whiteadder a little above Edrington Castle; and on Coldingham moor near Lumsden, A. A. Carr. May.

90. C. PALLESCENS. Marshes. N. Wooded banks of Wooler-water below Langley-ford.—B. Bogs near the head of the Tower burn opposite Hoprigg Shiels; and in Blackburn-rigg wood, J. Hardy.

91. C. EXTENSA. Rare. B. With Juncus cœnosus, Poa maritima, Scirpus rufus, and Glaux maritima, in a bog within the influence of the tide, between the Coveshore and Dunglass burn foot, J. Hardy. Coldingham Shore, G. R. Tate.

92. C. FLAVA. Boggy grounds, frequent. B. The variety β. (C. Œderi, Smith) is found in a bog near Mayfield; and in several places on our higher moors. In a bog at the head of Dunglass dean; near Penmanshiel; and on the sea-banks behind Dunglass toll, J. Hardy. June.

93. C. FULVA. Rare. B. Near Ledgerwood, Rev. T. Brown. Bogs about Buncle, and in the bog below Lintlaw, R. Dunlop. Mr. Hardy finds it on Coldingham and Penmanshiel muirs, and on the Lammermuirs.

94. C. BINERVIS. Common on all our moors. The plant which is found near the mouth of the Whiteadder, and registered as C. distans (Berw. Club Trans. i. p. 30), is referred by Mr. Babington to C. binervis. June.

95. C. LÆVIGATA. N. Wooded banks of Wooler-water below Langley-ford: base of Yevering Bell: Hepburn hill at Chillingham. —B. It occurs in bogs in all our woods, such as Penmanshiel, Kitchen cleugh, Blackburn-rigg wood, and Hoprigg Shiels, J. Hardy.

96. C. PANICEA. Common in boggy ground. May, June.—We have noted the liableness of the seeds to black-ball, as Linnæus had also done. Fl. Lapp. p. 266.

97. C. LIMOSA. Spongy bogs, rare. D. Haiden dean.—B. Bog below Smailholm Tower, F. Douglas. In Lurgie loch, J. Hardy.— N. Learmouth bogs.

98. C. SYLVATICA. N. Wooded banks of Wooler-water below Langley-ford.—B. In Langton and Penmanshiel woods; and in Red Clues cleugh, J. Hardy. June.

99. C. PENDULA. Damp woods. B. Sea-banks below Lamberton Shiels. It grows principally in wet spots near the coal-pit of Lamberton. Sea-banks behind Dunglass old toll, J. Hardy; and plentiful in Dunglass dean on the southern bank considerably above the wood bridge.—N. In the dean of Twizell-house. A tall and effective species in its braky localities.

100. C. RECURVA = C. glauca. B. In wet ground on the sea-banks at the Pigeon's Cove.

101. C. PRÆCOX. Dry pastures and heaths, common. April, May.

102. C. PILULIFERA. This is of frequent occurrence on all our moors. May.

103. C. HIRTA. Wet meadows and watery places, frequent. June.

104. C. AMPULLACEA. Bogs, peat-pits, and ditches in heathy soil, common in our district. June.

105. C. VESICARIA. N. In boggy ground above Wooler-water, opposite the shepherd's house near Middleton-hall, Jas. Mitchell.

106. C. PALUDOSA. Boggy places and banks of ditches, frequent. May.

107. C. RIPARIA. B. At the river-side on Gainslaw haugh, plentiful. North bank of the Whiteadder opposite Hutton. On the Ale near its confluence with the Eye, A. A. Carr. May.—Admirably adapted for making feet-brushes for passages. See Hodgson's Hist. Northumberland, ii. pt. ii. p. 458.

Of this long list of Carices our common people have not distinguished one by a peculiar name. The sea-shore species are confounded with the Bents, the large water sorts with Segges, and the muirland kinds with the Sprats, Bents*, Lings, and Purlaings†. The Carices add considerably to the early herbage of bogs and moors, but nothing to the landscape, excepting only the large woodland seekers, and especially C. pendula, which impart a graceful feature wherever they appear. The mud-loving species often line the sides of a mill dam, or of a ditch, or of a sluggish stream, like the Leet and the Lows, with a narrow belt of coarse hard jungle-like vegetation of a dusty green colour. In this cover, so to speak, the Lythrus salicaria is fond of taking shelter, and hides her long beautiful purple spikes. The common Reed and the Riband-grass mingle

* "Paring and burning has been tried on some plains of *benty* moors, in the lower district of the county, with advantage." Lowe's View, p. 56.

† The mosses in Lammermoor "produce *purlaing*, which comes early in the spring, but, on the whole, great tracts of the moor and moss, especially where they lie low and flat, are not worth sixpence the acre." Lowe's View, p. 51.

in the jungle, if away from the sea influence, with Epilobium hirsutum, Salix helix, the Water-mints, and the yellow Marygold; while the Forget-me-not finds, here and there, a free and open space to occupy with its azure flowers.

108. ANTHOXANTHUM ODORATUM. Sweet Vernal-grass. Pastures, very common. May, June.—In drying smells like Wood-ruff, and is the principal cause of the fragrance of meadow hay.

109. NARDUS STRICTA. Wire-bent: Black-bent. Abundant on all our moors. July.—Gathered for the purpose of manufacturing basses or mats.

110. ALOPECURUS PRATENSIS. Fox-tail-grass. Farquharson in Murray's North. Flora, App. p. x.—Common in pastures, and very valuable. Summer.

111. A. GENICULATUS. Wet meadows and marshy places, common. June, July.

112. PHALARIS ARUNDINACEA. Stillingfleet's Works, ii. 307. Margins of our rivers, of burns in the low country, and of ponds, frequent. July.—A variety having the leaves striped with green and white lines is often seen in gardens, and called Gardeners' garters, Ladies' garters, or Riband-grass.

113. AMMOPHILA ARENARIA = Arundo arenaria. The Bent.—Sandy sea-coast from Spittal southwards. Holy Island links. B. Shore at the mouth of the Pease-burn. July.—A most useful grass in binding drifting or loose sand, and hence a principal agent in forming the links of our shores. It is helped in this good work by many other plants. On the 17th July I found on a space, about nine feet square, of the links at Spittal, the following species:—

Ononis arvensis.	Galium verum.
Festuca rubra.	Thymus serpyllum.
Carex arenaria.	Arundo arenaria.
Achillea ptarmica.	Poa pratensis.
Hypochæris radicata.	Lotus corniculatus.
Cerastium arvense.	Leontodon taraxacum.
Hypnum albicans.	Tortula ruralis.
Astragalus hypoglottis.	Agaricus oreades.
Triticum repens.	Plantago lanceolata.
Triticum junceum.	Tanacetum vulgare.

The Rev. James Raine, in his History of N. Durham, p. 55, notices from Bede, that the wooden church of Lindisfarne, rebuilt by Finan in the Scottish fashion, was thatched with reeds, "in all probability the wiry Bent which grows in such abundance on the island." The cabin in the Ferne islands, to which St. Cuthbert retired, would much resemble those huts of divots or sods and stone which are still

---

6. Phalaris canariensis. Canary-grass.—Grown in cottage gardens for ornament, and for the use of the family canary; and hence occasionally a stray plant will be found flourishing at the sides of roads and foot-paths.

built by shepherds in our muirlands as a shelter in bad weather; and the Saint, it is no improbable conjecture, may have got his lesson in the art when he was a shepherd boy on the banks of the Leader. The rude hut, built, Bede expressly tells us, of stones and turf, was as rudely thatched: "culmina de lignis informibus et fœno superposuit." The fœnum we will assume was the Bent. Raine informs us, p. 161, that in Holy Island, "a sandy soil whereon grows a sort of grass called Bents, is common among the freemen, who have each a right to depasture a certain number of cattle thereon, and to cut Bents for covering their houses." In the Account Rolls there are other notices respecting this grass. "1344–5. Brushwood, fewel, and bent bought, 43*s.* 4*d.**" In the same year another entry is, "Bent for the hall and chamber in summer and autumn, 10*d.*"—1346–7. "Bent for strewing the hall and chamber in summer, $5\frac{3}{4}d.$" —These were the customs of a "good olden time," of which it is pleasant pastime to read,—with a sense, I trust, of thankfulness that we were not born then and therein.

The Rev. Mr. Raine has written the history of Holy Island with minute and learned accuracy. Another historian, of congenerous taste and learning, describes it as "a poor shabby place," and the town as "a dirty fishing town." But this is to look upon the sacred isle with the eye half-awake,—to deprive it of the better half of its function, and forbid it to wander afield lured by the light which shines far off, glorious in the distance. To the eye thus at freedom, Lindisfarne becomes the greenest spot in our prospect, and the most interesting field for the naturalist's researches. It was the mother of all the churches in the north,—the nurse of our religion, and of much of our civilization; and you may wander amidst its ruins and decay with the same reverential feelings that moved and agitated Samuel Johnson at Icolmkill. Hence I have been induced to give a plan of the island that you may more readily note the various localities, and more accurately indicate your own discoveries. For this plan I am indebted to Mr. John Lowrey. On examining it, it appears that the cultivated portion in the time of the good Prior, extended over a larger space than at present,—he may have had more corn and less bent. This fact was only discovered during the present year, when the island was visited by Sir Walter Calverly Trevelyan; and he found the evidence in the traces of former culture on land which is now buried under a layer of drifted sand. See Plate VII. The Prior had also gardens there which the present plots do not rival. There was his orchard; and, mindful of his men and their comfort,—he was a good Prior,—he gives "to John Quit, mowing the orchard of the Monastery, for drink 3*d.*" It was a hot day, and the beer was good and grateful. There was, at least, another "John the Gardener;" and he had for certain an "outer garden" to care for; and doubtless too an inner garden, wherein grew all the rare and cordial plants of that time, breathing their incense around

* Mr. Raine infers that this entry proves the Bent to have served for fuel,—an inference which does not seem naturally to follow.

the good monks as they tended them, and studied their virtues and healing properties. To recall that garden of delight, and of meikle care, 'tis now hard;—harder than to retrace the bounds of the garden of the deserted village,—but the Salvia, the Blessed Thistle, and the Wall-flower remain,—the only descendants of a larger tribe, and they are uncared-for and wild.

"The Holy Ilande is scituate within the sea, and yit at every tyde of lowe water men may passe into the same on horseback or foote." The roads are dreary, across wet, flat, and uncertain sands. The nearest from Beal is about two miles in length; that from Goswick may be about five; and it is indifferent which the naturalist chooses. Mr. Raine says that "with the exception of the occasional whistle of a curlew, or the silver wing of a sea-mew sparkling in the sun, there is nothing to amuse either the ear or eye,"—of the antiquary we presume; and yet the naturalist finds not much more in the common weeds and shells that strew the way, nor in the plants that grow on either side of the entrance and the outlet. The island is stated to contain about 1400 acres. It is nearly three miles in length, and a mile and a half in breadth. It is very irregular in its outline, and the surface is flat, for the only conspicuous eminence is the Beblowe, on which the Castle sits like a crown. The Heugh is a rocky elevation overlooking the town; and the links (about 900 acres) heave with rounded knolls of sand. The Lough covers about six acres of ground, and is filling up with vegetable decay. The ancient "infield lands," according to Mr. Raine, did not consist of more than 20 or 25 acres; but the cultivated fields now cover upwards of 500 acres. The ancient culture, however, appears to have been underrated.

In the latter end of the year 1667, the plague visited the villages of Ancroft and Scremerston. The sick at Ancroft were removed to an uncultivated unenclosed field which adjoins the brae on the Wooler road eastward, and placed in huts made with the Broom which covered it,—and hence the field is to this day called the Broomie-huts. The sick at Scremerston were taken down to the links on the sea-side, where huts were erected, from the Bent growing thereon, for their reception. "In both instances," writes the Rev. Wm. Hewitt of Ancroft, "the pestilence broke out at the East, the lowest situations of the villages; and in both cases the sick were alike treated. Food was carried to them from each village, and placed as near them on the windward side as the parties carrying it durst approach. Few, if any, returned to tell the tale of the misery and agony they had endured and witnessed."—Humanity, truly, in these "good olden times" was in its veriest infancy. It had been well for these visited people if the Monks of Holy Island had retained their ancient seats*.

* In the Account Roll for 1346–7, there is this entry—"Divers medicenal spices bought for the Prior, 5*s*."—And in 1390–1,—"Wine, spices, and wax, for the use of the Church, and the solace of strangers."—The plague visited the island in 1606.

114. PHLEUM PRATENSE. Timothy-grass: Soldiers'-Feathers. Common in pastures. June, July.—Agriculturists maintain, erroneously, that we got this grass from America. "This plant is American and grows in the swampy grounds of Virginia, without cultivation, to a great height. The seeds were carried from Virginia to North Carolina by one Timothy Hanson, whence its name." Gent. Mag. vol. 34. p. 230.—Many of the common names of our Grasses, now in use, seem to have been invented by Benjamin Stillingfleet. See his Life and Works by Coke, vol. ii. p. 266.

115. P. ARENARIUM. Sandy ground near the sea. D. Holy Island. July.

116. CALAMAGROSTIS LANCEOLATA = Arundo calamagrostis. Very rare. N. In a willow brake in the Horse-mire on Doddington moor. July.

117. AGROSTIS VULGARIS. Bent-grass. Dry heaths and pastures, very common. The pretty dwarf variety figured by Lightfoot on the title-page of the 2nd volume of his Flora Scotica, under the name of A. pumila, is common on all our moors. July.—An elegant grass, which, in "saft weather," has its gracile and branched panicle beaded prettily with dewdrops:

> "At dawn, when every grassy blade
> Droops with a diamond on its head."—R. BURNS.

It reminds us also of Gray and his Elegy:

> "Oft have we seen him, at the peep of dawn,
> Brushing, with hasty steps, the dews away,
> To meet the sun upon the upland lawn;"

but our Herds, who are not poetical, complain that the bespangled grass then wēets their "shoon" sairly. I have had mine soaked until they were no better than chamois-leather.

118. A. ALBA. Fiorin-grass.—Curtis, Brit. Grasses, 78: Quart. Rev. i. 351.—Pastures. In damp shady places we meet with a variety which Dr. Parnell names palustris; and the variety stolonifera grows abundantly in wet clayey spots along our sea-board. In moory soil this grass forms a matted turf to the exclusion of other grasses, much deprecated by farmers under the term of the Moor-delf-clod, or Felty-clod. J. Hardy.

119. CATABROSA AQUATICA = Aira aquatica, Sm.—Ditches and watery places, not uncommon. June. A very pretty grass, with a sweet herbage.

120. AIRA CÆSPITOSA. Minnel-strae: Bull's-faces. Rough bogs and moist shady places, common. July.—The flowered stems are gathered and dried to be used as an ornament in fire-places. The weary traveller, with a pipe formed of the stalk, slakes his thirst at the scanty and ill-conditioned wells of the moorlands; and the peat-diggers appease their thirst by chewing the sapid culms of this grass, for the water of the peat-bog they reckon "pushonable."—Grass is

said to go away into "winnel straes" when the culms wither in the end of summer, and become dead and useless :

> "They 'll start at winlestraes, yet never crook,
> When interest bids, to loup out o'er a stook."—A. Ramsay.

> ". . . . . a set o' men,
> Wha, if they get their private pouches lined,
> Gie na a windle-strae for a' mankind."—R. Ferguson.

"I haena biggit a bield o' the windlestrae, nor lippened my weight to a broken reed." Brownie of Bodspeck, ch. 11.

121. A. FLEXUOSA. Heaths, common. July.

122. A. CARYOPHYLLEA. Gravelly places on heaths, and light pasture ground, common. June, July.

123. A. PRÆCOX. Dikes capped with earth, and bare places on moors, not rare. May, June.

124. MELICA CÆRULEA=Molinia cærulea. In boggy places, and on moors, common. Aug.

125. M. UNIFLORA. B. Pease bridge dean, plentiful. N. In the wood that covers the crags at Belford. June.

126. M. NUTANS.—B. Gateheugh, Dr. W. Baird. Grows, along with M. uniflora, in two or three tufts near each other on a cliff overlooking the small rivulet that intersects the wooded dean of Blackburn-rigg. J. Hardy.

127. HOLCUS MOLLIS. Common. — Whin-wrack,—so called because it is found to occupy places whence Whins have been removed either by unrooting or burning. When a field of light shallow soil, after being cultivated for a few seasons, is again laid down for grass, an abundant and unlooked-for crop of this grass will often appear. It is one of those cases in which we are left to wonder how the seed came there.—"This grass occasions a considerable deal of trouble to the farmer, if grounds infested with it are in any degree neglected. According to some it is even more difficult to eradicate than quickens; as the latter rise in long, tenacious strings, which occasionally rot in the ground, whereas the root of the Holcus is excessively brittle, and the smallest section, like that of the annoying Convolvulus sepium, will propagate the pest anew. This grass abounds in the woods about Penmanshiel, and I observe, on examining a number of nests of the smaller birds, furnishes the greater proportion of the coarser grassy material employed in their construction. In the hole of a species of mouse, perhaps Mus sylvaticus, about June 17th, I found a considerable quantity of the fresh stems of this grass, gnawed into nearly equal portions about two inches in length and neatly disposed, which looked as if recently brought in for food. I have observed the Poa fluitans gnawed in a similar manner by the Arvicola amphibia." J. Hardy.

128. H. LANATUS. Edmons. Fl. Shetl. 9. — Midge-grass. — Meadows and pastures, common.—"This is pointed out as the 'rot-

grass' of the Merse. In a quiet morning, the dew attracted by the profuse down, stands in drops all along the leaves, glittering like silver. This rank, moist, and very tempting herbage lures the willing grazers, and gives origin to the Rot. So shepherds inform me. In the Lammermuirs the sheep are reported to be rotted by the sand of brooks and river-sides taken in along with their food.—Children are wont to take two panicles of the hairy grass, and desire a companion to fiold them between the teeth, one on either side of the mouth, when 'ye,' saith the deceiver, 'shall see a bonnie thing.' The grasses, thus placed, are then suddenly pulled away by the stalks, so that the mouth is filled with the mass of torn florets, and much sputtering and ill-humour is produced—for the laughter of those who enjoy such fun." J. Hardy.

129. H. AVENACEUS=Arrhenatherum avenaceum. Holditch on the Weeds of Agriculture, p. 36.—Buckbeards.—Sides of ditches, &c., common. The variety β, A. bulbosum of some authors, is a troublesome weed on many farms, and, from its tuberous roots, is called Knot-grass.

130. KOELERIA CRISTATA=Aira cristata. Dry elevated pastures, not uncommon. July.

131. GLYCERIA FLUITANS=Poa fluitans=Festuca fluitans, Curt. Brit. Grass, 59. Stillingfleet's Works, ii. 284. pl. 11.—Flote-grass. —Ditches and stagnant water, common.—A sweet grass, of which cattle are very fond; and they may be often seen wading to the dew-lap and licking the floating leaves from the surface of the water. July, August.

This grass grows lush in winter. Long before the advent of spring the leaves may be seen lying along the pond's surface in narrow blades, which have, at this season, a purplish tint. They have shot from the margin, where the Water-cress and the Brook-lime are growing in beds, very fresh and clean. Within them, and in deeper water, the Callitriche shoots up its slender stalks, and floats its healthy rosette of leaves on the surface; and the Duckweed carpets some odd corner whither the cold wind has driven it for shelter. I like to study this winter vegetation:—the green of it is very pleasant, and the growth healthy and compact, braced, as it were, by the cold. And it has not uninteresting contrasts. The centre of the pond, if deep, is unoccupied open water; if shallow, planted with the dead stalks of last summer's Water Plantain, that, in their figure and mode of branching, imitate, in a small way, a plantation of decaying Larches. The cany stalks of the tall grasses and of reeds line the margin partially, retaining still the chaffy remnants of their flowering panicle. The Duckweed lurks in scattered masses amidst these reeds; and at their roots, far below the water, the Willow-herb (Epilobium hirsutum) shows a bed of shoots which await there the coming of spring—ready to rush to the surface, and gain a place in the many-pied garland of summer. There too the curious eye sees, as in a mirror, green masses of Confervæ, and

roundish patches of Callitriche, and many other subaquatic growths, which variegate the bottom, and make it a field of interesting study.

Marshy spots in old meadows get very green and fresh in winter, and catch the pleased eye afar off. This is not from contrast with the surrounding barrenness, but from the vegetation of the perennial grasses that occupy a wet soil. Sandy links, on the contrary, are dull and dead, and rough with the persistent stalks of their wiry bents. The tufts of rushes, which stud the wet green meadow, continue to preserve their living colour about the base and half-way up the stalks, but the tops have become dry and withered. A deeper green heightens the effect of the various kinds of Pine, and renders their planting less gloomy in the prospect; but deciduous trees get a settled brown, with, however, red and pleasant tints, from the buds covered up in their varnished scales; and I have noticed that, in the distance, these brown woods are silvered over as with the grey hue of age. It is when in this naked condition that the naturalist studies to advantage the character of the various trees in their mode of ramification; and I remark that the branchlets of the Ash and Plane are opposite, patent, and knobby; those of the Elms alternate, zigzag, and flabellate; of the Oak irregular, kneed, and spreading; and of the Willow irregular and erect, but so lithe as almost to droop. The slender twigs of the Birch are more decidedly pendulous, and woven almost into an irregular trellis; while those of the Beech are regularly alternate and patent.—These are trivial observations?—not so to one of my capacity and tastes: they gave interest to my walk, and that had its value; and, perhaps, I may have read, in this unadorned page of my Book, the lesson that there was a good design, in all the unregulated variety before me, to please and comfort even the sensual eye. The eye, salved with euphrasy and rue, might have seen other lessons which I may not decipher to the full; yet even I could see, in the far distance, Spring and Summer hastening onwards to reclothe the skeletons, apparently so dead to every sweet influence, with green leaves and smiling flowers; and Autumn give the promise of abundant fruits. Is there no lesson in the vision? Many:—and one suits my present humour, which I give in the words to which it was set by a poet two centuries ago:—

> "I know you would not love, to please your sense.
> A tree, that bears a ragged unleaved top
> In depth of winter, may when summer comes
> Speak by his fruit he is not dead but youthful,
> Though once he shew'd no sap: my heart 's a plant
> Kept down by colder thoughts and doubtful fears.
> Some frowns like winter storms make it seem dead,
> But yet it is not so; make it but yours,
> And you shall see it spring, and shoot forth leaves
> Worthy your age, and the oppressed sap
> Ascend to every part to make it green,
> And pay your love with fruit when harvest comes*."

* James Shirley, as quoted by Lamb in Hone's Every Day Book, iii. part ii. p. 173.

132. G. PLICATA. Bab. Man. 392. See also Townsend in Ann. and Mag. Nat. Hist. Ser. 2. v. 104, &c.—Gathered by Mr. Babington in the watery ground at the trough below Letham-Shank in August 1845. I have also found it in the Tweed, at the isle above Norham, with its presumed variety pedicellata. Indeed I cannot say whether G. fluitans or plicata is our most common species.[7] Professor Arnott, as I think rightly, does not distinguish them specifically.

133. G. MARITIMA = Poa maritima = Sclerochloa maritima.—D. Shores of Holy Island, and on the Farne islands.—B. Sides of the Tweed above the Bridge, forming the herbage principally of those green spots that are frequently covered by the tide. St. Abb's-Head, and on the shore from that to Redheugh, and thence to Dunglass.

134. G. RIGIDA = Poa rigida = Sclerochloa rigida.—D. Plentiful on the Heugh in Holy Island. June.

135. POA COMPRESSA. R. On Melrose Abbey, as mentioned by Lightfoot. Fl. Scot. p. 98.

136. P. PRATENSIS. Meadows.—The P. subcærulea of Eng. Botany, a variety remarkable for the glaucous hue of its herbage, grows abundantly on Yarrow-haugh, and on the Farne islands; and the variety named arenaria by Dr. Parnell on the links of our sea-coast. His figure is a very characteristic one.

137. P. TRIVIALIS. Curtis, Brit. Grass. 10. pl. 4: Farquharson in Murray's North. Fl. App. p. vii.—Meadows.—From the large share which this grass and the preceding contribute to our meadow-pastures, they are called Natural-grass.

138. P. BALFOURI. Parn. Scot. Grass. 145. pl. 66. Trans. Berw. N. Club, ii. 166. Backhouse in Ann. and Mag. N. Hist. Ser. 2. vii. 154.—N. On rocks by the Colledge burn in the Brizzle, at a height of upwards of 2000 feet.—"I have no doubt of the Cheviot grass being Poa Balfouri, as it agrees with Scottish specimens of that plant in most respects. It differs from most of the Scottish specimens which I have seen, and also from Parnell's figure, in having the upper joint of the stem placed rather higher so as to appear above the second sheath. In this respect, however, one of the specimens from Ben Lawers, given to me by Dr. Parnell, corresponds with it." C. C. Babington.

139. P. ANNUA. Stillingfleet's Works, ii. 280 & 326. pl. 8.—Very common, flowering throughout the summer. About Dunse it is called Causeway-grass for a very obvious reason,—its frequency in unfrequented streets. The Ravensdowne of Berwick bears a good crop of it in the latter end of summer. I have been startled at finding it near the summit of Hedgehope and of Cheviot,—no doubt carried to this unusual height by the sheep, and vegetating where their dung had prepared a suitable locality for the seed.

---

7. Poa glauca, Turn. and Dillw. Guide, i. 242.—Holy Island, Winch.—This cannot be the P. glauca of Smith, which is an alpine species. Mr. Winch probably intended P. subcærulea.

140. Triodia decumbens. Dry and heathy pastures, common.

141. Briza media. Trembling-grass: Quaking-grass: Cow-quakes: Ladies' hair: Dothering docks in Durham.—Common in pastures and heaths. June.—Gathered to ornament chimney-pieces in summer; and it is a favourite in the posies of our children. They of the Lammermuirs call the grass Siller-tassels,—the prettiest of all its vernacular appellations.

142. Dactylis glomerata. Stillingfleet's Works, ii. 313. pl. 3. —Fox's-foot, which the clustered panicle somewhat resembles. And as the leaf feels rough, and does not draw smoothly across the back of their little hands, children call the grass Sticky-grass; and they use it to bleed each other in the tongue. It is common as a native, and is also often sown in pastures, for by some farmers it is much esteemed. It occasionally becomes viviparous in autumn; and it is subject to the Ergot. June–Aug.

143. Cynosurus cristatus. Dog's-tail grass. Farquharson in Murray's North. Flora, App. p. xi.—Common in pastures. Occasionally viviparous. July.

144. Festuca bromoides. Walls and dry pastures, not uncommon. June.

145. F. ovina.—Forms, in a great measure, the fine turf of our dry hilly pastures. It is called by our herds "a kind of ling," of which sheep are very fond. From the fineness of its foliage, shepherds put parcels of it in their shoes to preserve their feet from damp.—It grows plentifully on some parts of our sea-coast, where it assumes a glaucous green colour.—In elevated moors the spikelets become viviparous; and this variety some consider to be a distinct species (F. vivipara).

146. F. rubra. Common in dry sandy places. Characteristic specimens of the F. rubra of Smith may be gathered on Spittal links, and on those of Holy Island.—Dr. Parnell makes it and Festuca duriuscula of Smith varieties of one species.—The variety β. sabulicola of Babington grows intermingled with F. rubra on Spittal links.

147. F. duriuscula. Common in waste grounds and dry pastures.

148. F. elatior. Wet meadows; our sea and river banks; and boggy places in deans, common.

149. F. loliacea. Very rare. I found this, many years ago, on the river side above Yarrow-haugh; but it has never again occurred to me. It is now considered to be a variety either of F. elatior or pratensis.

150. F. pratensis. Common in habitats similar to those of F. elatior. Curtis praises it highly as an agricultural grass. Brit. Grass. p. 13. pl. 5.

151. F. gigantea = Bromus giganteus, Linn.—Moist woods and thickets. B. Pease and Cockburnspath Tower deans: deans in

Penmanshiel wood: Red Clues cleugh: Blackburn-rigg dean, abundant. July, Aug.

152. Bromus asper. In planted banks and deans, where it raises far above the other grasses its elegantly drooping panicle.

153. B. sterilis. Waste places, common. A useless but graceful species. June, July.

154. B. mollis = Serrafalcus mollis. Goose-grass: Bull-grass. Common on earth-capt walls, by road-sides, and in fields. June.

155. B. racemosus = Serrafalcus racemosus. Cultivated grounds. B. In fields at Penmanshiel, and near the Cove, J. Hardy. In fields near Coldstream, and Anton's-hill, Miss Bell. In fields about St. Abb's-head.

156. Avena fatua. Wild Oat. Corn-fields, in a clay soil principally, a very troublesome weed*.—From the contortions of the awn, our rural physiologists conclude that it has sentient life. Jugglers, in the good olden time, predicted events, and told fortunes, from its motions; and to cover the cheat they called the awn "the legg of an Arabian Spider, or the legg of an inchanted Egyptian Fly." From the hand of jugglers it has passed into the hands of philosophers, and now furnishes them with a very excellent hygrometer. It seems first to have been recommended by Hooke, who has given a curious description of it in his Micrographia. He asserts that "for the discovery of the various constitutions of the air, as to driness and moistness, it is incomparably beyond any other; for this it does to admiration." Its sensibility to these changes of the atmosphere seems to depend on the different texture of its parts, for the awn is composed of two kinds of substances,—"one that is very porous, loose, and spongie, into which the watery steams of the air may be very easily forced, which will be thereby swell'd and extended in its dimensions, just as we may observe all kind of vegetable substance upon steeping in water to swell and grow bigger and longer. And a second that is more hard and close, into which the water can very little, or not at all penetrate, this therefore retaining always very near the same dimensions, and the other stretching and shrinking, according as there is more or less moisture or water in its

---

8. Bromus secalinus = Serrafalcus secalinus. — In corn-fields occasionally, introduced with seed from the south.

* Mr. Watson thinks that the Wild Oat is "probably an agricultural introduction to Britain; that is, imported with foreign seeds of the cereals." "It may be deemed," he continues, "a well-established agrestal weed in the southern provinces; but hardly more than an alien, renewed by repeated introduction, in the northern provinces." Cyb. Brit. iii. p. 183.—Perhaps we are not sufficiently far north; but certainly these opinions come strangely over us. Neither do we count that an alien which came to us with the cereals. 'Tis a good family that reckons its ancestry to beyond Roman and Saxon colonizations.

pores, by reason of the make and shape of the parts, the whole body must neeessarily unwreath and wreath itself." Microg. p. 151.

1. **Avena sativa.** The Oat: Aits: Yetts.—"And Otes is a good graine in the common wealth, for men, horse, and foules: as thei haue little other bread in many places of Wales, and Darbie shire. In Northumberlande, horse haue as greate plentie to eate of theim, as menne haue in moste places of this realme, either Wheate or Rie, for their owne foode. And in the North it is called Hauer." Bulleyne. Book of Simples, fol. xxx.

The Black or small-bearded Grey-Oat is said to have been the only kind grown in our district until after the invasion of Scotland by Cromwell; and a Commonwealth officer, of the name of Blith, has the honour of having displaced it by the introduction of the White-Oat. Of this we have now many varieties, of which the principal appear to be—1. the Potato; 2. the Sandy; 3. the Hoptoun; 4. the early Angus; 5. the Poland; and 6. the Common Oat. Other varieties arise, and are introduced from time to time.

Anson is said to have found the Oat wild in Juan Fernandez. Willd. Sp. Plant. i. p. 446.—This is an out-of-the-way place certainly to find the original seat of a north-loving grain; and in truth, the search after the native spot of our cultivated cereals seems about as wise and productive as the search after the philosopher's stone. They were never wild, but are the coheritors of the soil with civilized man; and if some scattered plant has been anywhere found that could be cultivated into a cereal—which is very doubtful—that scattered plant is the degenerate and run-wild descendant of the social species. Mr. Stark has some excellent remarks on this subject in his essay "On the supposed progress of human society from savage to civilized life." I quote a passage which merely expresses the conclusion at which he arrives:—"Unlike many other plants with a circumscribed geographical range, wheat, barley, oats, and rye, are found in almost every place where there are tribes of men. And it is farther a curious and unaccountable circumstance, except in one view, that these grains are never found in a wild state, available to any extent for the purposes of man. Their continuance depends upon their cultivation. Everywhere they are found to die out, if left to the spontaneous care of nature." Trans. Roy. Soc. Edin. xv. i. p. 204.

Pipes "made with green corn," especially with the second shoot of the stalk of the Oat, is a favourite plaything of the sauntering schoolboy; and the invention claims an ancient descent. See Strut's Sports and Pastimes, p. xxxix.

2. **A. nuda.** Naked or Hill-Oat.—Once generally cultivated.

3. **A. orientalis.**—Koch Fl. Germ. 794.—The Tartary Oat.—Cultivated to some extent. It is a coarse but productive species, distinguished readily by its unilateral panicle.

157. A. PRATENSIS. Dry pastures. Sea and river banks in several places. July.

158. A. PUBESCENS. Dry limestone pastures, not uncommon in the neighbourhood of Berwick. Sea and river banks. June.

159. A. FLAVESCENS = Trisetum flavescens. Meadows and new pastures, common. July.

160. PHRAGMITES COMMUNIS = Arundo phragmites. The Reed: Bog-Reed: Bennels. Banks of rivers, and in ponds and ditches, frequent.—Mown in some parts of Berwickshire, and used for thatching. "The reason why reeds are called Bennels is because they were used in making 'Bennels'; viz. layers of reeds bound together and extended below the roof in cottages not provided with a ceiling." J. Hardy.

161. HORDEUM PRATENSE. Very rare. D. Yarrow-haugh, on waste ground at its head; and on the river side below the mouth of the Whiteadder, Dr. James Thompson. July.

162. H. MURINUM. Wild Barley. Road-sides and waste grounds. It is abundant about Berwick, and in the vicinity of all our villages on the coast. Holy Island. N. On the road from Millfield to Yevering. July.—Children amuse themselves by inserting a spike between the wrist and the sleeve of the jacket. The arm is now swung back and forwards for some time, when, on stripping, they perceive, with wonder, that the grass has crept up, perhaps, to the arm-pit. I have often performed this feat.

4. **H. vulgare.** Bear: Beir: Bere: Bigg: Four-rowed Barley. Almost the only kind cultivated in the Lammermoors until the beginning of the present century. Its early ripening was a great recommendation for this high locality; but nevertheless it has been gradually superseded by the common Barley, and is now rare in cultivation.

5. **H. distichum.** Barley: Two-rowed Barley. Extensively cultivated in many varieties.—"The fiers of the Merse barley were first settled in 1752, which seems to intimate, that barley began to be then an object of common cultivation. The fiers of the barley of Lammermoor were first adjusted in 1788, which seems to show the more recent cultivation of it, in this high situation, which produces corn of less weight and value than the Merse below." Chalmers, Caledonia, ii. p. 317.

6. **H. hexastichon.** Hogg in Ann. and Mag. N. Hist. Ser. 2. v. 498. Six-rowed Barley.—Cultivated to a comparatively small extent.

163. TRITICUM JUNCEUM. D. Sandy sea-coast from Spittal southward, not very common. Holy Island.—B. Shore at the foot of the Pease-burn; and between the Cove shore and Dunglass burn, J. Hardy. July.

164. T. CANINUM. Banks and hedges, not common. B. Banks of the Eye between Ayton and Netherbyres. Cockburnspath Towerdean, J. Hardy.—N. Ashwood, Belford, Thompson. July.

165. T. REPENS. The Quicken: Wrack. A very common weed, and so vegetative and retentive of life that it requires much labour and expense to clean the lands infested with it. July.

7. T. vulgare. Wheat.—α. T. æstivum. Spring Wheat. There are both white and red varieties, and of these a kind that is almost destitute of awns, while another has long bristles like Barley. This is almost exploded from E. Border husbandry, but I have seen it growing, in small quantity, in late districts; and specimens may always be procured from amongst more valuable kinds.—β. T. hybernum. Winter Wheat. Sown in autumn. A number of varieties are cultivated to suit the variety of soils and exposures; and as the productiveness of one sort declines, a newer starts into favouritism. —γ. T. turgidum. Distinguished by being downy-chaffed, and I suppose it is the Woolly-ear Wheat imported from England. I have heard it called the Gray Wheat; and was told that from the downiness of the chaff it was apt to suffer from wet and dews.— δ. T. compositum. Many-eared Wheat: Egyptian Wheat. This is cultivated very partially.

8. Secale cereale. Rye. Cultivated on light sandy soils near the sea, and on the tops of hilly fields inland, but not now to any considerable extent. The Rye is said to have come from Crete. Willd. Sp. Plant. i. p. 471.

166. BRACHYPODIUM SYLVATICUM = Festuca sylvatica. Woods, and on banks in deans, abundant. July, Aug.

167. LOLIUM PERENNE. Rye-grass. Meadows and pastures. Extensively cultivated.—The spike is sometimes compound and distichously branched. June.

168. ROTTBŒLLIA INCURVATA = Lepturus incurvatus. Sea-shore, rare, but found in plenty on the links beyond Goswick by Miss E. Bell and Miss Hunter.

---

9. Lolium temulentum, and its variety L. arvense, occur occasionally in corn-fields, but are not established weeds.

Our Wild Flowers in their relations to our Pastoral Life.

A LECTURE

READ TO THE

MECHANICS' INSTITUTE OF BERWICK-UPON-TWEED

IN THE SPRING OF 1851.

A Prelude of Mottoes.

"A merry time it is in May,
When springeth the summer's day,
And damisels carols leadeth,
On green wood fowls gredeth."—Romance of Merlin.

"Who sawe evir so feyr or so glad a day,
And how sote this seson is entring into May?
The thrustelis and the thrushis, in this glad mornyng,
The ruddok and the goldfynch; but the nyghtingale
His amerous notis lo how he twynith small!
Lo how the trees grenyth that nakid wer, and nothing
Bare this month afore but their sommer clothing!
Lo how Nature maketh for them everichone!
And as many as ther be he forgettith noone!
Lo how the seson of the yere and Averell showris
Doith the bushis burgyn out blossoms and flouris!
Lo the prymerosis how fresh they ben to sene!
And many othir flouris among the grassis grene.
Lo how they spryng, and sprede, and of divers hue!
Beholdith, and seith both rede, white and blue!
That lusty bin and comfortabill for mann'ys sight!
For I sey for myself it makith my hert to light."—CHAUCER.

"Pleasant are the words of the song," said Cuthullin! "lovely the tales of other times! They are like the calm dew of the morning on the hill of roes, when the sun is faint on its side, and the lake is settled and blue in the vale."—OSSIAN.

"To him who in the love of nature holds
Communion with her visible forms, she speaks
A various language; for his gayer hours
She has a voice of gladness, and a smile
And eloquence of beauty, and she glides
Into his darker musings, with a mild
And healing sympathy, that steals away
Their sharpness, ere he is aware."—W. C. Bryant.

"A Flow'r is not a flower alone—
A thousand sanctities invest it;
And as they form a radiant zone,
Around its simple beauty thrown,
Their magic tints become its own,
As if their spirit had possess'd it."—Wordsworth.

"Alas! I took great pains to study it, and 't is poetical."—Twelfth Night.

"By hieroglyphic hue and sign,
Flowers shall the heart and soul divine,
And all the feelings that engage
Man's restless thoughts from youth to age:
This blossom shall note Infancy,
Lifting in earliest spring its eye
To dewy dawn, and drinking thence
The purity of innocence;
That—vigorous Youth, which from the hue
Of summer skies imbibes its blue,
And bursts abroad, as if to say,
'Can lusty strength like mine decay?'
This—Life's autumnal date, which takes
A colouring from the breeze which shakes
The yellowing woods; and that—Old Age,
Which comes when Winter drifts the fields
With snow, and, prostrate to his rage
Tyrannical, bows down and yields."—D. M. Moir.

"I thought of men, who look'd upon my face,
Breathing and blooming, breathless now and cold;
I heard their voices issuing from the mould,
Amid the scenes that bear of them no trace.
I thought of smiling children, who have sat
At evening on my knees, and press'd my hand,—
Their cherub features and their accents bland,—
Their innocence,—and their untimely fate;—
How soon their flower was cropt, and laid below
The turf, where daisies spring, and lilies blow!"—D. M. Moir.

"O, these are Voices of the Past,
Links of a broken chain,
Wings that can bear me back to times
Which cannot come again;
Yet God forbid that I should lose
The echoes that remain!"—Household Words.

YETHOLM LOCH.

I NEED scarcely remind you that a very large portion of our knowledge and of our pleasures is derived from the impressions made on our senses by the objects with which we are surrounded. And of these objects none can be more influential than vegetable productions, because of their exceeding numbers and general diffusion. They cover the surface of the earth we tread upon; and send up from it a crowd of wholesome influences from which we cannot escape, and an unfailing stream with rich tribute to every sense. They load the air we breathe with sweet odours, and impregnate the exhilarated blood with their balsams and incense; they minister much music to the ear,—the flower sighs in the zephyr, and the leaf rustles in the breeze,—the trees murmur in the wind as doth the surging sea, and, in the storm, the woods utter their diapason in solemn or even in awful harmony*. To the eye, plants are the messengers ever of

* "Cuthulin sat by Tura's wall: by the tree of the rustling sound." OSSIAN.—Mr. A. Hepburn writes, in a commentary on the Lecture with which he has favoured me:—"Every species of tree, whether in its summer or winter garb, gives forth a distinct sound when stirred by the breeze or the storm: when wandering one sultry day in August 1851 near Tunbridge, Kent, the dancing leaves of a row of the noblest Aspen Poplars I ever beheld, gave forth a sound which carried my mind away to Belhaven bay in E. Lothian, and the rush of its gentlest tide; a corn-field in June gives forth a similar sound: pine woods—needle-wood of the Germans—give forth many soul-like sounds. I shall not soon forget the moan of the

glad tidings; and it hath, in no other province of nature, such prized and pleasant teachers. We are not wrong in referring to them much of our ideas of what is beautiful, for there are no forms more agreeable to our perception than those which imitate flowers in their shape and symmetry,—no combination of figures more graceful than those of the tracery and intertwinings of trees and creepers,—and no colours more grateful than those which glow in their blossoms. The result of all these varied influences is well proved by the tincture which plants have communicated to our language. So full indeed is this with words and phrases that have a vegetable origin, that, in their use, we are scarcely conscious of the source they come from, or of their metaphorical sense. Take this example, selected, however, as much for the moral it conveys, as for its aptness :—

> "There is in every human heart
> Some not completely barren part,
> Where seeds of truth and love might grow,
> And flowers of generous virtue blow :
> To plant, to watch, to water there,
> This be our duty, be our care."

And this one :—

> "And he who gives his name to fate,
> Must plant it early, reap it late;
> Nor pluck the blossoms as they spring,
> So beautiful, yet perishing."

And this other :—

> "You behold me here
> A man bereaved, with something of a blight
> Upon the early blossoms of his life
> And its first verdure, having not the less
> A living root, and drawing from the earth
> Its vital juices, from the air its powers :
> And surely as man's health and strength are whole
> His appetites regerminate, his heart
> Re-opens, and his objects and desires
> Shoot up renew'd*."

Another proof of this influence of plants is found in the fact that we have associated them so intimately with every stage and circumstance of man's life, that no other mode of portraying his mortal journey is more easily understood, or half so agreeable in its symbolical meanings. Death arrests the germ as soon as it has sprouted,

---

storm amidst the relics of the primeval forest in Glen Affrick, which I heard in 1847. Poets speak wisely in using the expression, 'strings of the forest lyre.'"

* The two first examples are from Bowring; the third from Taylor's Philip Van Artevelde. I dare say the memory of most of my readers will furnish them with many illustrations even more apt.

and the infant is "nipt in the bud;" the cherub on the breast is "an opening bud;" the prattling child is the mother's "rose-bud;" the girl bursting to maturity is the "opening rose;" the pet of the village is the "flower of Yarrow;" every hamlet boasts "its flower that is born to blush unseen;" the stalwart youth is, to his parents, as the "stately Cedar of Lebanon;" the good man is graphically represented "as a tree planted by the waters, and that spreadeth out her roots by the river, and shall not see when heat cometh, but her leaf shall be green; and shall not be careful in the year of drought, neither shall cease from yielding fruit;" the aged naturally fall "into the sere and yellow leaf*;" and humankind finishes its history by declaring that "all flesh is grass, and all the goodliness thereof is as the flower of the field: the grass withereth, the flower fadeth." Now the favouritism of these similes is based on this—that while they express the truth distinctly, they convey that expression veiled in a company of associations which or flatter or sooth or comfort the user of them, whose then mood of mind would ill bear to have its mingled feelings spoken out in curt and vulgar words, which embrace only the coarser ingredients, but leave unwhispered all the sweetness, the pride, the endearment, and the hope which the heart keeps unto itself, and which publication would dissipate and destroy.

This impress from the vegetable world which affects us all, must operate more powerfully on those of a poetical temperament; and hence we find that their language is not only florid, but abounds in floral similitudes and emblems; and their admiration often bursts out into descriptions and odes of individual species, which are indeed sometimes very beautiful. Michaelis has remarked that "the frequent recurrence for metaphorical expressions to natural objects, and particularly to plants and to trees, is so characteristic of the Hebrew poetry, that it might be almost called the botanical poetry." The remark needed not to have been so restricted. I cannot compare the Hebrew with the poetry of ancient Greece and Rome, but in such poetry of the sunny eastern lands as I know through translations, the language of flowers is redolent; and so also is that of southern Europe; and it abounds just not in excess in that of our own country. Even in very early and rude times wherein ballads had their birth, floral imagery was not awanting; and when society had advanced so that a more refined and elegant phytology could be understood and relished, flowers became the principal medium through which the poets endeavoured to move the heart and its affections. Similes drawn from them disappear from burlesque poetry, and are seldom used with advantage in the didactic and epic; but every one who has painted rural customs and the innocency of pastoral life,—who has tried to seduce us to the love of

* "In me that time of life thou dost behold,
When yellow leaves, or few, or none, do hang
Upon the bough."—SHAKESPERE.

nature,—who has sought to flatter and to woo,—solicit many a time and often the aid of flowers; and to him—if rightly invoked—

"not a beauty blows,
And not an opening blossom breathes in vain."

Now, it will be my object to describe—not exactly, I admit—in the severe dress of truth *, some of those customs, beliefs and incidents of rural life associated with our wild flowers, as I have myself observed them, and as they have been described in floral metaphors by our poets. This may be deemed a very childish theme, and I dare say it may be so, but not therefore necessarily unfruitful. In spring the Romans held annual games in honour to Flora, accompanied with supplications for beneficial influences on the grass, trees, flowers, and other products of the earth. For my descriptions I plead even a higher aim,—even to revive some buried scenes of your infancy, of your youth, and of your age; and thereby to re-open once more the flood-gates of those virtuous feelings which the wisdom of the world has made us lock up, and would have dried away to dust, had it been possible, by her hard chemistry, to have separated them from our human nature. "There may be a pleasure," says John Younger of St. Boswells, and, as he is a mechanic, I the more willingly adduce his authority,—"there may be a pleasure, to a mind jaded and harassed amidst the toys and trammels of life, to throw back an occasional glance of reflection over the sunny hours and flowery fields of our simplest delights, when the opening roses of life were enjoyed in their freshness, their prickles yet undiscovered †."

It is the first Sunday in May—and a sunny day it is—when a group of little children issue from the schealing ‡, dressed in their best, and clean and tidy as the fondest mother can make them. The eldest carries the chubby baby in her arms, while the three inter-

* "But the lowest scenes of simple nature will not please generally, if copied precisely as they are."—Thomson to Burns. Works by Chambers, iii. p. 306.

† Author's Life, in his "The Light of the Week," p. 19.—"The improvements we make in mental acquirements only render us each day more sensible of the defects of our constitution; with this in view, therefore, let us often recur to the amusements of youth; endeavour to forget age and wisdom, and as far as innocence goes, be as much a boy as the best of them."—Goldsmith.

‡ Camden describes the herdsmen upon the wastes of Northumberland as a sort of nomades who lived in huts which were called Scheales and Schealings, translated into Scalingas in the charters of the 12th and 13th centuries. The ancient Schealings in Berwickshire lay all in the Lammermoors, and many of them discover their sites in the names of existing onsteads. Winsheels, Hensheel, Gamilsheels, Bowsheel are on the Bothil' or not far from it; and we have Penmanshiel on the verge of Coldingham moor, &c. Several manors in the Merse had shealings in the Lammermoors. In the 12th century, William de Veterepont granted to the monks of Kelso, "quosdam Scalingas in Lambermore que pertinebat ad Hornerdane." See Chalmers' Caledonia, ii. p. 309.

mediates or walk with careful steps by her side, holding by her apron, or gambol around her; all prattling, and full of innocence and glee, for they are bound to the favourite primrose bank, pranked as gaily as themselves, and just as it were to do honour to the little visitors *. And now they have reached the green bank, which lies faceward in the sun, and is protected on the east by the budding hedgerow. As there is still a little sharpness in the air, the fond sister seeks out a bieldy place where she may seat her charge, while the others go aplaying. One gathers every Daisy until the little hand can grasp no more; another prefers the Primrose; another the Buttercup and Blackcaps; and another deems himself bolder and happier than the rest, for he has ventured into the quaking bog, and has filched therefrom a King-cup and some of its Spinks or Cuckoo-flowers. But the elder has not left her charge. With short and frequent visits, she had long ago filled its lap with her gatherings; and she now sits beside the pleasēd wee-thing stringing the daisies into a long and glorious necklace with which she will encircle its neck in two or three rows. And she has next to prepare and decorate the naked sprays of the hawthorn broken away from the hedge behind. So she tastefully, as if she were Flora herself, bespankles every branchlet and every spine with a daisy flower, and gives them a beauty that doth indeed delight her admiring flock; but the biggest sprig is the pride of them all; it has been more profusely flowered than the others, and all its borrowed blossoms are crimson-tipt blossoms, for it is to be baby's present to the mother. Their task done, they return homewards filled with happiness and family love; and I have seen the prized floral trophy ornament the window for many a day thereafter.

My little group are again agog, but this time they are not in their holiday gear; and as the season is more advanced, and the air is warmer now, the mother permits them a longer stroll,—to another green bank from which a spring wells up to the light its sparkling waters. These find their way down the brae in a runlet overgrown with water-cress, and lose themselves in the bottom, which is consequently very soft and very green, and has a spongier space covered

* "Where 'gainst the rich deep green the Cowslip hangs
His elegant bells of purest gold:—the pale
Sweet perfumed Primrose lifts its face to heaven,
Like the full, artless gaze of infancy:—
The little ray-crown'd Daisy peeps beneath,
When the tall neighbour grass, heavy with dew,
Bows down its head beneath the freshening breeze;
Where oft in long dark lines the waving trees
Throw their soft shadows on the sunny fields;
Where, in the music-breathing hedge, the Thorn
And pearly white May blossom, full of sweets,
Hang out the virgin flag of Spring, entwined
With dripping Honey-suckles, whose sweet breath
Sinks to the heart—recalling, with a sigh,
Dim recollected feelings of the days
Of youth, and early love."—ATHERSTONE.

with tufts of Rushes and Yellow-flags. A brake of well-grown Broom overhangs one side, and throws the effulgence of its golden blossoms half across the oozy bottom as the sun seeks the west. It is not the broom of Cowdenknowes, but it is quite as tall and as bonnie. You will easily guess what my children are about: they are about pulling with heed the green Rushes from the bog. Each carries its little lot with a busy air to the sister, who sits beneath the brake weaving them into fantastic crowns and helmets,—a whip and a sword for the brothers. These, in emulation of their forebears, are boon to ride the Borders as in the good olden time:—

> "I see an elfin band at play—
> — proudly ranged in martial rank,
> In rival bands upon the bank,
> With rushy helm and sword of sedge
> A bloodless Border war to wage."

And in fact the younger boy has already mounted his horse—a stick to-wit broken from the broom-bush—to do the deed; but while he is soldiering, his more sedate companion examines, with the aid of a large King-cup which he is holding to her chin, into a charge made against a little sister as to her overfondness for the mother's butter on churning days. The dear innocent looks self-convicted, for alas! her chin does become "yellow-bright," and she may not dispute an evidence made so patent by the buttercup ordeal. However, she bethinks herself in time, and she will have the test applied to baby—sinless baby; and lo! the golden halo overshadows the entire chin, and foretells the coming infirmity. Little sister laughs,—and baby startled hides his face in his nurse's bosom; and when he raises it from the coveted shelter, the faint alarm has vanished, and a sweet smile rewards the rogueish tormentor.

So far as I know, my first picture has not been the subject of the poet's pencil, but my second has been so occasionally. The lines I have quoted in its illustration are from the "Autumnal Excursion" of Thomas Pringle, a native of Selkirkshire. They refer to a boy's game which I have played, and which Sir Walter Scott appears to have seen acted upon a spot very like the spot we had more immediately in view. Sir Walter's locality is the crystal well near "the simple cross of Sybil Grey," which is hard by Twizel Castle. After a notice of the changes which time had effected on Flodden-field and its neighbourhood, the Border Minstrel continues—

> "But yet from out the little hill
> Oozes the slender springlet still.
> Oft halts the stranger there,
> For thence may best his curious eye
> The memorable field descry;
> And shepherd boys repair
> To seek the water-flag and rush,
> And rest them by the hazel bush,
> And plait their garlands fair;
> Nor dream they sit upon the grave
> That holds the bones of Marmion brave."

Allan Ramsay and Gilfillan allude to the rush-pulling more explicitly, but they have marred the pleasure of its remembrance by severing the custom from its befitting years. Thus Ramsay makes a love-lorn swain tell us :—

> "I took delyte
> To pou the Rashes green, wi' roots sae white,
> Of which, as well as my young fancy cou'd,
> For thee I plet the flowery belt and snood."

And thus Gilfillan sings :—

> "When we deck'd our woodland Queen,
> In the rashy chaplet green,
> And gay she look'd I ween!
> By our ain burnside."

Now this is to burlesque the custom, and to misunderstand human nature, for it were indeed to expose to laughter even the youngest sweetheart so to adorn her. At its earliest, love does not bud until we have put away our childish pretty things, and neither blossoms nor fruits until the genial season calls forth affections which prompt the wooer to offer more persuasive and appropriate gifts.

As men and women are but children of a larger growth, so the same feelings and instincts which led our youngsters to the pied fields to gather the daisie, the rathe primrose, the tufted crowtoes, the glowing violet, the wan cowslip, and every vernal flower and floweret of a thousand hues, continue their wholesome influence over us throughout life. Nor can it be otherwise. When the Creator had clothed the earth with grass, and herb yielding seed after his kind, and the tree yielding fruit, He pronounced the whole to be "good;" and that which was good to Him must necessarily be good also to Man whom He was pleased to create in His own image. Hence our innate and enduring love of flowers; hence the pleasure we experience in finding them made illustrative of our humanity in either its physical or moral attributes; and the pleasure we have in seeing them lead on the opening year, and conduct it to its autumnal close. And these pleasures never pall nor fade, for they are not too exacting, nor so strong as to overmaster and enslave the reason even for a time. Such pleasure is carnal, and seldom without an alloy; but the sensations born of flowers approach the spiritual, and, being temperate, they not only do not repress, but they cherish to fuller growth and beauty our most grateful feelings, and put the individual in a state of mind in which he would continue as if in Paradise, could Paradise be settled down on earth. The evanescent nature of the animal pleasure, Burns has strikingly illustrated by the extreme deciduousness of the Poppy :—

> "But pleasures are like poppies spread,
> You seize the flower, its bloom is shed;"

whereas the love of flowers endures not only from early morn to dewy eve,—not merely throughout the varied year,—but lives in the busy seasons of manhood, and reflourishes with the freshness and

vigour of youth, in the autumn of our age*. Many of you will remember Cowley's "Wish," and, mayhaps, with yearning sympathy:—

"Ah, yet, ere I descend to the grave,
May I a small house and large garden have!"
"Oh fields! oh woods! when, when shall I be made
The happy tenant of your shade?"

In further proof of these my positions, you will permit me to step aside, and introduce two or three little episodes that appear to have sufficient interest to excuse the digression.

Chaucer loved the Daisy so fervently that, he lets us know, it often roused him early from his bed; and no other spectacle nor favoured game could seduce him from his books. He could lie "the long daie" doing nothing else but "to lokin upon the Daisie," which to him was "the emprize, and the floure of flouris all." If you wish to read some of the most vigorous and delightful poetry in the English language, you can read this great author's "Legende of Good Women"; and you will not only participate in his enthusiasm, but your hearts will burn within you with a new love for this simple "star of the mead."

The enthusiasm of Dr. Carey in the same plant was not less sincere, nor less deeply rooted. Born in a low condition of life, Carey raised himself to eminence. He was, as many of you know, one of the most distinguished missionaries of Christianity in India. He was likewise distinguished as a botanist, and became the superintendent of the botanical garden at Serampore, in connection with the Baptist College there. While in this situation, Dr. Carey made many an effort to rear the wild plants, or weeds if you will have it so†, of his native English fields; but his more especial care was to grow the Daisy. He was for long unsuccessful:—at length a single plant came up in a flower-pot,—and nurtured with skill, this flowered in the face of a tropical sun, and endured its ungenial heat for about two years. Then it died, leaving no succession. I can neither describe the good man's joy when the English plant budded and blossomed,—nor his sorrow when it withered away; but I know

* "I am no botanist; but, like you, my earliest and deepest recollections are connected with flowers, and they always carry me back to other days. Perhaps this is because they are the only things which affect our senses precisely in the same manner as they did in childhood. The sweetness of the violet is always the same, and when you rifle a rose, and drink as it were its fragrance, the refreshment is the same to the old man as to the boy. We see with different eyes in proportion as we learn to discriminate, and, therefore, this effect is not so certainly produced by visual objects. Sounds recall the past in the same manner, but do not bring with them individual scenes, like the cowslip-field or the bank of violets, or the corner of the garden to which we have transplanted wild flowers."—R. Southey. Life and Correspondence, iii. p. 313.

† "Weeds have been called flowers out of place. I fear the place most people would assign them is too limited." Wordsworth. Memoirs, ii. p. 340.

very well that it was dearer to him than all the most gorgeous flowers of the East,—the origin and life of many happy recreations of his father-land,—of many revivals of his early companions,—and of "thoughts that do often lie too deep for tears."

Dr. Arnold affords another example of the strong sway that flowers exercise over a very masculine and practical mind. He was Head-Master of Rugby School, and Professor of Modern History in the University of Oxford,—a distinguished historian and divine,—and a good man. And he had a heart. On leaving his University he was successively settled at Laleham as its parish priest,—at Rugby as the master of a great seminary of learning,—and at Fox-How in Westmoreland as the head and friend of his family. To each of these places he carried with him, as if they had been his portion of the household gods, shoots of "the great Willow tree in his father's grounds at Slattwoods" in the Isle of Wight. In his hours of relaxation, during the busiest period of his life, he made his walks full of enjoyment by "observing, with distinct pleasure, each symptom of the burst of spring or of the richness of summer;" and he called his children to participate with him the interest of his observations. "There was the cheerful voice that used to go sounding through the house in the early morning, as he went round to call his children; the new spirits which he seemed to gather from the mere glimpses of them in the midst of his occupations—the increased merriment of all in any game in which he joined—the happy walks on which he would take them in the fields and hedges, hunting for flowers—the yearly excursion to look in a neighbouring clay-pit for the earliest Coltsfoot, with the mock siege that followed."—So also during his vacations at Fox-How the wild flowers on the mountain sides were to him, Dr. Arnold himself said, "his music;" and he loved them, he used to say, "as a child loves them;" nor could he bear to see them plucked from their natural places by the wayside, for there "others might enjoy them as well as himself." But he did not hesitate to gather the flowerets which grew on the mountains by the running streams, to take them home to those who were not of the party, and who taught themselves to read their beauty—and the sense of it—in their father's admiration*.

Such is the active and cheering operation of our wild flowers on men of high intellect and virtue in the very meridian of their days; and now let me show you how these mute creations operate on little less gifted minds when this body is about to lay aside its earthly coils for ever. They work then differently in accordance with the original differences in the temperament of the individual, yet ever beneficently; and so intuitive is this truth that it prompts the sisters of charity—and where woman is found there are sisters there—duly to furnish the sick chamber with sweet flowers, and with them to strew the bed wherefrom the invalid shall never rise. It was in spring that the late Mr. Surtees of Mainsforth, the author of the History of the county of Durham, and one of the Worthies of that

* Life and Correspondence by Stanley, pp. 4, 179 & 185. 6th edit.

county, lay upon his death-bed. A bright sun looked in upon him there, and reminded him of his favourite time of the year, and he said,—"I shall never see the peach blossom, or the flowers of spring. It is hard to die in spring!"*

> "..... sad as he who dies in early spring,
> When flowers begin to bloom, and larks to sing,
> When nature's joy a moment warms his heart,
> And makes it doubly hard with life to part."

As a contrast, yet a companion picture to this, let me take, as my last instance, one evidently drawn from real life though veiled in fiction. It is the case of a lady of high rank whose latter years had been cast on evil days, and who, warned that the time of her departure hence was at hand, visits her daughter's house, there to die. "One forenoon," says the daughter, "I did prevaile with her to let them carry her a considerable distance from the House, to a sheltered sunny spot, whereunto we did oft resort formerly to hear the wood-pigeons which frequented the firre trees hereabout. We seated ourselves, and did passe an hour or two very pleasantly: she remarked how mercifully it was ordered, that these pleasures should remain to the last days of life; that when the infirmities of age make the company of others burthensome to us, and ourselves a burthen to them, the quiet contemplation of the works of God affords a simple pleasure which needeth not aught else than a contented minde to enjoy: the singing of birds, even a single flower, or a pretty spot like this, with its bank of Primroses and the brooke running in there below, and this warm sunshine, how pleasant are they! They take back the thoughts to our youth, which Age doth love to look back upon."—"The sweet season of Spring was delightful to her beyond any other time of the yeare:"—and, adds the daughter, "as I beheld her placid enjoyment, and heard her commend the delicate beauty of a flower she held in her hand, remarking that she look'd upon this portion of creation as in a particular manner worthy of our sacred regard," she hopefully appropriated the emblems that were springing up around her from a seeming death unto new life and fresher beauty. For her it was easy to die in spring! †

We must now return to our almost forgotten family of children. The youngest of them has grown to the age of her who whilom carried him afield, and she has advanced far into girlhood; and each returning morning sees them all wending their way from home to the hamlet,—a mile off or more,—where the school is, and where the kind old master rules them to obedience and letters. On the road there are several places to be crossed which are the scenes of tales that have pleased, and will continue to please, every generation as they come up in succession to this the proper period of life for receiving all wondrous stories in unquestioning faith. Here the hollow sound which issues from the earth, when trod upon heavily, tells of a subterranean chamber in which unnumbered treasures lie guarded

* Memoir of Robert Surtees, p. 187.
† Diary of Lady Willoughby. Lond. 1846.

by wizard book and spell; there the coloured uneraseable stain cries out for yet unavenged blood, and a spirit yet unquieted; here a white rabbit has been made visible to many a belated boy; and the steep bank of this wooded ravine is speeled with haste, for 'tis certain that goblin, ghaist and fairie haunt it now and for ever. The well-remembered spots are all before me, and well do I love to recall them, dressed in those charms with which old memory clothes them! The elder boy knew every particular spot, and he could deftly rehearse its appropriated tale, or even impart new wonder to it. Thus when the Roan-tree, which hung across the narrow footpath in the dean, had evolved its beautiful pinnated leaves, and its bunches of fragrant flowers, he cautioned his little followers to put themselves under its protective charm, for wiser heads had taught him that

> "Roan-tree and red thread
> Haud the witches a' in dread*."

The younger boy laughs at these phantasies, and boasts himself incredulous, but his infidelity is not contagious, for the earnest faith of the elder is more persuasive and genial to the confiding nature of the little flock. And he strengthens their belief by many a tale,—amongst others the tale of the loathly toad of Bamborough Castle†. The tale runs thus: Once on a time—a long time ago—the castle was the residence of a witch stepmother, who, from hatred and jealousy, banished her lord's son beyond the seas, and changed his fair daughter—the fairest among women—into a toad; and this loathsome shape she was to endure until her brother could return and dissolve the enchantment. The fond brother very often made the attempt to return, but as often in vain, for the coast was guarded by a powerful spell, and every ship that strove to reach the shore was either driven off by invisible agents, or the nails drew off themselves from the beams, and the vessel went to pieces. At length the brother bethought himself of having a ship built entirely of roan-tree wood, and the sails and the ropes bound with red thread. The scheme was the inspiration of a benevolent fairy; and immediately on the brother's embarkation, the magic vessel bounded over the favouring sea, and, in spite of the might and skill of the witches under the command of the stepdame, it sailed, as if self-moved, into the desired haven! I may quote a few verses, since they illustrate a

* Margaret Barclay tried for Witchcraft,—"and the only appearance of conviction obtained against her was, that she carried about her Rowan-tree and coloured thread, to make, as she said, her cow give milk, when it began to fail." Scott's Demonology, p. 325.

† This was a fitting place wherein to localize the creations of romance. "Bamborough Castle, as we learn from Kington, was the 'chastel orgueilleux,' and Berwick the 'château de la joyeuse garde,' the favourite habitation of Sir Launcelot,"—the favoured knight of the pretty faithless Guenever. See Ellis's Metrical Romances, p. 36 & 166. Bohn's edit. Lond. 1847.

class of superstitions always associated with certain plants in the ballads that pleased our rude forefathers:

"They built a ship without delay,
With masts of the Roan-tree,
With fluttering sails of silk so fine,
And set her on the sea."

"The Queen look'd out at her bower window
To see what she could see:
Then she espied a gallant ship
Sailing upon the sea.

"When she beheld the silken sails,
Full glancing in the sun,
To sink the ship she sent away
Her witch-wives every one.

"The spells were vain: the hags return'd
To the Queen in sorrowful mood,
Crying that Witches have no power
Where there is Roan-tree wood."

But his sisters loved best to hear their gentle brother discourse of the Fairies—the prettiest creations of the pastoral muse—and with which he had peopled every knowe and dean amidst the heaths around them*; and, mayhaps, he had borrowed some of those features he saw in them from one of the companions that joined their company on the way to school, and whom he was apt to call a little fairy. You know that the Fairies are a pretty sort of spirits, moonshine revellers, dressed in green†, or yellow skirted; and although they cannot raise themselves to the size immense of a worser sort of spirits, yet they can otherwise

"..... colour, shape, or size
Assume, as likes them best."‡

Their especial pleasure is, on moonlit summer nights, to assemble together

"..... on hill, in dale, forest or mead,
By paved fountain, or by rushy brook;"

and play bo-peep amidst the blossomed flowers. Some of you may have seen the exquisitely fanciful picture by Noel Paton of Oberon and Titania with their attendants, who sport in every conceivable figure and position, hiding in one blossom, sucking nectar from

* "There must still be many alive, who in childhood have been taught to look with wonder on knolls and patches of ground left uncultivated, because, whenever a ploughshare entered the soil, the elementary spirits were supposed to testify their displeasure by storm and thunder." Sir W. Scott's Demonology, p. 89. "We almost, &c." Ibid. p. 184.

† "About mill-dams, and green brae faces,
Both elrich elfs, and brownies stayed,
And green-gowned fairies daunced and played."—Cleland.

‡ See Keightley's Fairy Mythology. Bohn, Lond. 1850.

another, looking out from a third, and gambling and tumbling everywhere in the midst of a posy which genius and taste has arranged and put together, and which is full worthy of being the summer-house of their Queen :—

> "..... a bank where the wild Thyme blows,
> Where Ox-lips and the nodding Violet grows;
> Quite over-canopied with luscious Woodbine,
> With sweet musk-roses, and with Eglantine:
> There sleeps Titania, some time of the night,
> Lull'd in these flowers with dances and delight."

Fairies, you then perceive, have a great deal to do with our subject. They guide the favoured child to good luck when it seeks, in faith, the four-leaved Clover or the even leaf of the Ash-tree; they hide in the bowl of the acorn, and it forthwith becomes the cup on your child's tea-tray; they "kill cankers in the musk—rose-buds," and these buds are forced in love's hot-bed; they blow adrift the feathery crown of the Dandelion when the herd laddie grows weary of his herding; they speckle the bells of the stately Foxglove that they may be made worthy of a fairy's finger*; and they plant and nurture the Blue-Bells amidst the purple heather, and imprint the indelible signature on every leal heart of auld Scotland. One such heart thus sighs from Afric's deserts—

> "Oh! that I were where Blue-Bells grow
> On Roxburgh's ferny lea,
> Where Gowans glent and Crow-flowers blow
> Beneath the trysting tree."†

Shakespere has most bewitchingly associated some of our common plants with the Fairies. They are the "demy-puppets," that

> "By moonshine do the green-sour ringlets make,
> Whereof the ewe not bites;"

and you may study these "emerald rings," for they are frequent enough on our sea-banks and in old pastures, and easily discovered by being "more fertile fresh than all the field to see"—you may study them there with all the cool philosophy of advanced years and of acquired science, and yet it will be happy for you should Shakespere's theory remain fresh and verdant in your heart and memory. It is yet apparently not entirely disbelieved by our children. In an interesting book, published in 1850, I find it recorded that "a few miles from Alnwick is a fairy-ring, round which if people run more than nine times, some evil will befall them. The children constantly

* In Wales "the bells of the Digitalis or Fox-glove are called Menyg Ellylon, or the Elves'-gloves; in Ireland, also, they are connecte with the fairies." Keightley's Fairy Mythology, p. 412.

† Thomas Pringle, the author of the "Autumnal Excursion and other poems collected into a volume by Leigh Hunt.

run this number, but nothing will induce them to venture a tenth run*."

Fairies are also the small elves "whose pastime is to make midnight mushrooms;" and they had imposed upon them the more serious duty of bestowing additional excellence on such flowers as were destined for the use of Queen Titania. A fairy—and no doubt a maid of honour—tells us that such was her pretty occupation:

> "The Cowslips tall her pensioners be;
> In their gold coats spots you see;
> Those be rubies, fairy favours,
> In those freckles live their savours:
> I must go seek some dew-drops here,
> And hang a pearl in every Cowslip's ear."

There are few, unless they have some botanical knowledge, that will fully appreciate the exact beauty of this description of the Cowslip; but we can all of us apprehend the pretty vagrancy of the fancy that assigned to these quick entities the delicate task of bespangling the flowerets with their dew-drops. Another poet carries out the fancy a little more in detail. His fairies gather the dew as it falls, and with it they adorn every leaf and spray as if with orient pearls†; and with this nectar are fed the morning zephyrs as these wanton amongst the bean and clover fields‡, or linger on the breathing bed of violets, or nestle in the rose, or play over the volutions of the eglantine and woodbine when these clamber round your fair Rosamond's bower.

* Keightley's Fairy Mythology, p. 310.—The remainder of the paragraph is as follows: "In Northumberland the belief in the Fairies is not yet extinct. The writer from whom we derive the following legend tells us that he knew an old man whose dog had pointed a troop of fairies, and though he could not see them he plainly heard their music sounding like a fiddle and a very small pair of pipes. He also tells us, that many years ago a girl who lived near Nether Witton, as she was returning from milking with her pail on her head, saw the fairies playing in the fields, and though she pointed them out to her companions they could not see them. The reason it seemed was her weise or pad for bearing the pail on her head was composed of four-leaved clover, which gives the power of seeing fairies. Spots are pointed out in sequestered places as the favourite haunts of the elves."—See also the Borderers' Table Book, vii. p. 182–184; and Hone's Every Day Book, iii. p. 674.—My father's herd—John Henderson—drove the cattle to the water with a roan-tree wand; and he used to observe that "it coudna do nae harm."—I have often carried a piece in my pocket, in imitation of my elder school-fellows.

† "'Twas I that led you thro' the painted meads,
Where the light fairies danced upon the flowers,
Ranging on every leaf an orient pearl,
Which, struck together with the silken wind
Of their loose mantles, made a silver chime."
Hone's Every Day Book, iii. p. 71.

‡ A poor visionary saw, in 1769, the elf spirits "skimming over the tops of the unbending corn, and mingling together like bees going to hive." Sir W. Scott's Demonology, p. 171.

The Daisy is an especial favourite with the tiny elves. They have many things in common with humanity, and they often enact incidents in rivalry of the shows of terrene mortals. Of these none pleases them more than the tournament; and the object which they place in the seat of the Queen of Beauty, and to which the elfish knights and dames do homage, is a tuft of Daisies, which they hold to be the emblem of fidelity in love. Chaucer is my authority for this fact, which is transmitted down in good modern verse by Dryden, and accepted as an article of the poet's creed by Dr. Leyden. There are very few passages in the "Scenes of Infancy," which can be compared to the one in which he describes the Daisy; and I quote it to prove to you how a description of a common plant can be made pleasing and beneficial.

"Star of the mead! sweet daughter of the day,
Whose opening flower invites the morning ray,
From thy moist cheek, and bosom's chilly fold,
To kiss the tears of eve, the dew-drops cold!
Sweet Daisy, flower of love! when birds are pair'd,
'Tis sweet to see thee, with thy bosom bared,
Smiling, in virgin innocence serene,
Thy pearly crown above thy vest of green.
The Lark, with sparkling eye, and rustling wing,
Rejoins his widow'd mate in early spring,
And as he prunes his plumes of russet hue,
Swears, on thy maiden bosom, to be true.

"Oft have I watch'd thy closing buds at eve,
Which for the parting sunbeams seem'd to grieve,
And, when gay morning gilt the dew-bright plain,
Seen them unclasp their folded leaves again:
Nor he who sung—'the Daisy is so sweet,'—
More dearly loved thy pearly form to greet;
When on his scarf the knight the Daisy bound,
And dames at tourneys shone, with Daisies crown'd,
And fays forsook the purer fields above,
To hail the Daisy, flower of faithful love."

It might weary you to dwell longer upon fairie flowers, albeit they grow so abundantly upon the banks of the Tweed, but allow me for a moment to direct your notice to one of them,—for 'tis worthy a day's journey to see it towards the end of July,—and it grows with us more profusely than anywhere else. You may see it then hanging over our sea-banks in many places, more especially over the high and precipitous banks which gird in the little bay below Marshall-meadows, in green massy tresses several feet in length and relieved by the numerous clusters of its pea-like "pale and azure-pencilled flower;" but there its beauty is even less than when the plant throws its tendrils and trailing stalks from tree to bush in our hazelly shaws and briery deans, or when it festoons the front of a scaur half hidden with various shrubbery and sloe and thorn. Go see it thus beautiful on the banks of the Whiteadder opposite the Raven-knowes; and on the banks of the Tweed below West Ord. I have seen it,—perhaps Memory has salved the eye with its euphrasy and rue to gild the

retrospect,—surpassing even its beauty there, in Roddam-dean. Sir Walter Scott saw it in no finer locality when he pronounced the Wood-Vetch worthy "to canopy Titania's bower."

I return to my family. The eldest has grown to womanhood, but not, alas! in the lustiness of health. A sister younger than the child she carried of yore to the primrose brae, had been rapidly stricken down even in its very infancy; and the first-born felt the blow and mourned. There is a far-famed monument in Lichfield Cathedral erected by Chantry to the memory of two sister children, and in the hand of the younger, the sculptor, with exquisite feeling and taste, has placed a Snow-drop to tell the tale of innocence and infant purity. The grave of the herdsman's child had no monumental marble—no stone to distinguish it,—but, planted there by fond affection, a tuft of the Snow-drop hung its pensive head over the little grave, as each future spring brought round the anniversary of its death *. She who planted it felt that she must soon sleep by her nursling's side. The canker-worm was busy unseen; and the blossom fell as soon as it was blown. The last time I saw her was towards the end of April 1813. She was being carried out by her grandmother and mother to the front of the cottage, which stood on an unenclosed green meadow in the midst of an extensive muir. I cannot say that this was not solely for the sake of the sun and the balmy air:—it may have been so, but there was once a creed which taught that to place the foot on the expanded Daisy was to secure to the invalid a new lease of life †; and perhaps the old faith lingered in the bosom of the grandmother, who might hope, almost against hope, that the virtue of the flower had not altogether departed. Love will nourish hope in very desperate circumstances, and here in vain; for Death lets no charm relax his grasp when the young and loveliest are his victims.

My feeble sketch is a reality, and there are amongst you some who must have seen the like of it in relative or friend. It was very early said of its type that she came forth "like a flower and is cut down;" and he who uttered the plaint has had a continuous succession of sincere mourners to hand it down even unto us. And flowers have ever been made the medium, whether to express the grief that had settled down in the heart, or to enlist and heighten your sympathy. The most memorable example within the range of pastoral poetry is Burns' Highland Mary. Goldsmith has drawn a picture of a female, who, excepting in her fate, was like the one before you:—

> "Her modest looks the cottage did adorn,
> Sweet as the Primrose peeps beneath the Thorn."

---

* "..... with fairest flowers,
While summer lasts, and I live here, Fidele,
I 'll sweeten thy sad grave," &c.
See on this subject the Memoir of Robert Surtees, Esq., p. 292.

† See Hardy in Hist. Berw. N. Club, ii. pp. 18, 19. In Berwickshire, the common expression is, "Ye 'll get round again, if ye had your fit on the May-Gowan."

The peculiar sweetness and felicity of this simile requires, perhaps, a loving and poetic nature for its full reception, and may have eluded our hamlet's simple tenantry. But they spoke of their favourite, even when a girl, as being the Lily-of-our-valley; and there was more aptness in the comparison than, it may be, they weeted.

> "With slender stalk and modest humble mien,
> I saw the floweret with its head reclined."

But when hectic had tinted the cheek, the friends spoke simply of that increase in her beauty, which the poet has sought to convey ever in floral imagery. Many have seen there the struggle between the Lily and the Rose, but he was more familiar with our wildings who thither for his colours and his symbol:—

> "The wild Rose, (emblem, and resemblance too,
> Of beauty without art,) breathing its faint,
> Delicious life, peeps thro' the hawthorn hedge,
> Half pale, half red, like pining beauty's cheek."

As again the end drew nigh there was about her a hallowed influence,

> "With richer fragrance breathed the simple flower,

which reminded the poet that the Violet more becomingly symbolized one who had always veiled her beauty, and who now dying, and after death, continued to breathe rich odours to whomsoever loved her favourite name and nourished her memory*:—

> "The summer winds sing lullaby
> O'er Mary's early grave,
> And the summer flowers spring tenderly
> O'er her their buds to wave.
> For oh! her life was short and sweet,
> As the flowers which blossom at her feet!"

His sister's fate mellowed the character of the tale-loving brother. Following the occupation of his father, he had grown to be a shep-

---

* "Yet, though thou fade,
From thy dead leaves let fragrance rise;
And teach the maid
That goodness Time's rude hand defies,—
That virtue lives when beauty dies."—H. K. White.

"Louisa herself was one of the violets of the world; nothing could be gentler or kinder. She seemed never to think of herself."—Southey. Life and Corresp. vi. p. 85.

> "Whence is it, that the flowret of the field doth fade,
> And lyeth buried long in Winter's vale;
> Yet, soone as Spring his mantle hath displayde,
> It flowreth fresh, as it should never fayle?
> But thing on earth that is of most availe,
> As vertues branch and beauties bud,
> Reliven not for any good."—Spenser.
> The Shepheard's Calender.

herd. From his infancy "his daily teachers had been woods and rills;" and now, in his manhood, it was his pleasure,—for his character was contemplative and unobtrusive,—

> "..... to steal
> With loitering foot along the vale obscure,
> And pluck gay flowers;"

and the pleasure he had in them had made him familiar with their variety and peculiar habits. His was the very temperament for love to sway as he would; and he loved. The darling of his heart was just the counterpart of his sister and of himself*. She was a blue-eyed, cherry-cheeked lassie,—a very Bessie Lee—who aye had ae sweetheart, and sometimes had twa. I never heard her compared by any one to any flower whatever;—she was too gamesome for that,—but the lad who loved her—his former merry elf—moulded her to his fancy until she became to him rather the creation of his own mind than the reflection of the reality. There was indeed sometimes a difficulty in assimilating the two images, for the girl knew her power, and was apt to meet his seriousness with something savouring of coquetry—

> "Laughing at her love the while."

But the nonconformity was more evanescent than the early dew, and his love freshened under its moisture. Her image is ever present with him, and every object is suggestive of the idol:—

> "The opening Gowan, wet wi' dew,
> Nae purer is than Nannie, O."

He could sing, and he sang with earnest truth—

> "I see her in the dewy flowers,
> I see her sweet and fair:
> I hear her in the tunefu' birds,
> I hear her charm the air:
> There 's not a bonnie flower that springs
> By fountain, shaw, or green;
> There 's not a bonnie bird that sings,
> But minds me o' my Jean."

He gathered posies for her, and to every flower he gave a language as he placed it in the Sunday nosegay; but the girl cared not to decipher the mysteries, and her pretty ignorance needed to be taught that the Hyacinth therein was emblematic of his constancy "wi' its unchanging blue." He would meet her in the morning amang the

* "..... your grave and wise
And melancholy men, if they have souls,
As commonly they have, susceptible
Of all impressions, lavish most their love
Upon the blithe and sportive, and on such
As yield their want, and chase their sad excess
With jocund salutations, nimble talk,
And buoyant bearing."—P. Van Artevelde, p. 237.

blooming heather; and at midday he wooed her on the broomie knowe,

"Wi' the burn stealing under the lang yellow broom;"

and as twilight drew on she was his companion as he trod homewards his way through the darkening dean. These meetings, I need not say, were all imaginary. Love often dallies with its own creations. I question if one of them ever happened,—certainly not one in the dean without a name. The fearfu' bit lassie would have died of palpitation and terror to have met any one, at such an hour, in such a lonesome and ghaist-like place. The courage she could muster never carried her further, in the twilight hour, than to the secresy of the trysting tree, which stood in the village pathway, and almost within call.

The "trysting Tree"! Ah! there is something in that name which carries us back to pleasant memories and associations which "I may not tell you." Milton will have it that

"every shepherd tells his tale
Under the Hawthorn in the dale;"

Goldsmith delights to remember and to paint

"The Hawthorn bush, with seats beneath the shade,
For talking age, and whispering lovers made;"

and Burns never drew a finer picture than when he placed the "youthful, loving, modest pair" "beneath the milk-white Thorn that scents the evening gale." It was a favourite scene with that great poet. He has selected a similar locality to depict his meetings with his Highland Mary; and in his beautiful ballad entitled "The Soldier's Return," he represents the "gallant sodger," when he has reached the "bonnie glen"—"where early life I sported,"—happy to recognise the trysting thorn still remaining where he had won the affections of the faithful lass, "sweet as yon Hawthorn blossom."—I am very sure that these scenes would not have had the same charm,—would not have summoned up the same landscape,—nor such sweet associations of season and of place, had any other tree or bush than the Hawthorn been selected. Well know the poets this. Hence a pleasing, although a minor poet, made his boy Tammie find his ain wee-thing

"Down by the burniē whar flow'rs the Haw-tree;"

and again Sir Walter Scott, when he traces the course of the troubled loves of Cranston the Knight and of Margaret of Branksome—the most interesting characters in his "Lay,"—tells us

"A fairer pair were never seen
To meet beneath the Hawthorn green."

We have, or have had, three famous Trysting Trees in our district. One of them is, I think, an Elm which overshadows a walk by the Teviot's silver stream near Roxburgh Castle. It has been celebrated by Mr. Houy in some verses which have been published in a school

collection *. The following sample of them is more remarkable for conceit than beauty :—

> "For 'neath its shade, in days gone by,
> Have lovers told their hopes and fears;
> Its leaves have trembled in their sigh,
> Its roots have fed upon their tears."

The second was the "Eildon Thorn" which Thomas the Rhymer is represented as having made the place of assignation between him and the Queen of Fairie land. The tree grew on the slope of the hill, on the road from Melrose to Kelso, and about a mile from the village of Earlston; but a storm overthrew it some years since, and now the "Eildon-tree stone" marks the spot where the seer was wont to woo his unearthly bride †.

> "The Eildon Tree hath pass'd away
> By natural process of decay;
> We search around, and see it not,
> Though yet a grey stone marks the spot
> Where erst its boughs, with quivering fear,
> O'erarch'd the sprite-attended seer,
> Holding unhallow'd colloquy
> On things to come and things gone by."—D. M. Moir.

Our third Trysting Tree stood in Polwarth Green. In the centre of this green there is a small enclosed space made to protect three Thorn-trees of various size, which are the descendants of the primeval Thorn. The legend runs in this wise :—The estate of Polwarth formerly belonged to Sinclair of Hermandston, whose family, as far back as the 15th century, terminated in co-heiresses. At that early period there used to be dreadful contentions about heiresses; few were married without having first been the occasion of one or more broken heads; and it generally happened that the most powerful, not the most beloved wooer, obtained the prize. Out of all their lovers, Mariota and Margaret Sinclair preferred the sons of their powerful neighbour, Home of Wedderburn; and it happened that the eldest sister was beloved by the elder Home (George), while the younger placed her affections on the younger son, whose name was Patrick. After the death of the father of the young ladies, they fell into the hands of an uncle, who, anxious to prevent their marriage, that he himself might become their heir, immured them in his castle somewhere in Lothian. They contrived, nevertheless, in this dilemma, to get a letter transmitted to their lovers, by means of an old beggar; and they were soon gratified by the sight of the two youths, accompanied by a determined band of mersemen, before the gate of their prison. The uncle made both remonstrance and resistance, but in vain. His nieces were forcibly taken from him, and carried off in triumph to Polwarth. Part of the nuptial

* Hindmarsh's Rhetorical Reader, p. 360.

† Stat. Acc. Berw. p. 21.—See also Sir Walter Scott's Demonology, pp. 132–136.

rejoicings (for the marriage ceremony needed then no three several days of calling) consisted in a merry dance round the Thorn. The lands of Polwarth were then divided between the two Homes, and, while George carried on the line of the Wedderburn family, Patrick was the founder of the branch afterwards ennobled by the title of Marchmont *. In commemoration of this romantic affair, all future marriage-parties danced round the Thorn, to a tune named "Polwarth on the Green," and to which several songs have been subsequently adapted. One of these, I am informed, was written by the grandfather of Thomson, the author of the "Seasons;" another was written by Allan Ramsay. In Tannahill's "Och hey! Johnnie lad," the lass having twitted her suitor with a breach of punctuality, he replies,

"Gin ye were waiting by the wood,
Then I was waiting by the Thorn;
I thought it was the place we set,
And waited maist 'till dawning morn†."

The custom of the marriage dance continued in force for several centuries. I find that it had gone into disuse at the beginning of the present century‡; and it is now considered to be incompatible with our refined—or at least fashionable—manners. Worse things have of late been restored.

Another change comes to chequer my dream of the pastoral life—a dream suggested by realities which are hastening away into the darkening shadows of the land o' the leal. I now see a man laden more with infirmities than with years, seated before the sanded doorway of a cottage a little apart from the homestead, at the entrance of the avenue which leads to the squire's mansion. In him I can, with some difficulty, recognise the gallant boy who was wont to make merry with goblins and ghaists, and who loved of yore dearly to play the truant,

"And unconstrain'd to rove along
The bushy brakes and glens among."

He became a soldier. After an absence of some years, he revisited his native place; and an incident, on this occasion, gave origin to the following verses written by one who was in the same station of life, and born in our district §:—

"I cam' to the hill whare a Boy I had wander'd,
And high beat my heart when I traced it again;
As up its steep side, now an auld man, I dander'd,
I stopt, whare a bonnie Pink blossom'd its lane:—

---

* Chambers' Picture of Scotland, p. 14. † Works of Tannahill, p. 19.
‡ Stat. Acc. of Scotland, xvii. p. 95, an. 1796. Stat. Acc. Berw. p. 234.
§ Mr. Robert Storey. He was the son of a hind, and born at Heaton mill on the Till. I believe that the lines have not been hitherto published.

It seem'd a wee star lighted up amang heather!
My first thought said, 'Pu' it, and bring it away'—
But a tenderer pleaded—'How soon it wad wither!
Oh! leave it to bloom on its ain native brae.'

"'For wha kens,' pled the Thought, 'but this bonnie flower blooming
May hae some kind o' feeling, or sense, o' its ain?
It 'll change wi' the lift, be it smiling or glooming,
Exult in the sunshine, and droop in the rain!
And wha kens that it has-na some pleasure in gieing
Its flower to the e'e, and its sweets to the day?
That it has-na a secret and sweet sense of being?'
Sae I left it to bloom on its ain native brae."

The soldier soon again left his natal roof, and it was long long before he returned to die: for, as Goldsmith has worded it, "there is something so seducing in that spot in which we first had existence, that nothing but it can please. Whatever vicissitudes we experience in life, however we toil, or wheresoever we wander, our fatigued wishes still recur to home for tranquillity: we long to die in that spot which gave us birth, and in that pleasing expectation opiate every calamity*." This feeling has always operated with peculiar strength on our Border peasantry:—

"And still, beneath the hallow'd soil,
The peasant rests him from his toil,
And dying, bids his bones be laid
Where erst his simple fathers prayed."

Once when climbing the mountain-passes of Affghan, wearied with the march, and oppressed with heat, my soldier's eye caught the glimpse of what seemed to be a familiar plant of his own fatherland. With some of his comrades he hurried to the spot, and, true enough, there the common Nettle grew in a few scattered patches †. Now

* "Scenes of my birth, and careless childhood hours!
Ye smiling hills, and spacious fertile vales!
Where oft I wander'd plucking vernal flowers,
And revell'd in the odour-breathing gales;
Should fickle Fate, with talismanic wand,
Bear me afar where either India glows,
Or fix my dwelling on the Polar land,
Where Nature wears her ever-during snows;
Still shall your charms my fondest themes adorn;
When placid Evening paints the western sky,
And when Hyperion wakes the blushing Morn,
To rear his gorgeous sapphire throne on high.
For to the guiltless heart, where'er we roam,
No scenes delight us like our much-loved Home."
Robert Millhouse in Hone's Every Day Book, iii. p. 168.

† "Many years ago I can remember of being told by an officer, who was with our army when we first invaded that mountainous part of India, that he one day saw a party of his black soldiers hurrying from a patch of dark-green weeds which had stung their naked ankles. But the English soldiers, on the contrary, made a rush to the spot with shouts of joy and laughter. The officer curious to know the cause followed, and soon recognised, in this

there is as little poetry in a nettle as in any herb I know, but on this day, it did all that the best poetry can do. Like a mighty exorcist, it summoned up the vision of his country,—the haunts and playground of his childhood,—the cottage of his mother; and it heartened him for his duty, and nerved his arm; for indeed he would return to her, and it, with the honest pride that nor she, nor his birthplace, should be ashamed of their soldier. One thus endued

> "Is yet a Soul whose master-bias leans
> To home-felt pleasures and to gentle scenes;
> Sweet images! which, wheresoe'er he be,
> Are at his heart; and such fidelity
> It is his darling passion to approve;
> More brave for this, that he hath much to love."

And it was even so:—he returned with affections undecayed, and from the rudest to the gentlest heart in the hamlet all love him.

His pleasure is, however, not to tell of what he has done and seen; —it is rather to look backwards on the days when youth was in its prime. He loves to revisit the primrose bank, which he re-peoples with his youthful associates; and when he casts up their virtues and their fates, he weeps again,—for "the flowers o' the forest are a' wed awae."—You feel that no other metaphor but a botanical one could convey his feelings, for where otherwise was he to find words, which, while they gave utterance and relief to his sadness, mingled no alloy in the revivals wherein he would see only unfaultiness and early decay? And when he recalled his buttercup experiments, — his rambles in the fairy dean,—his intimacy with every floweret of it, and with every tree, he would, satiated with the pleasant remembrances, contrast them with his quieter pleasures in the same haunts now, and remind an old companion of when

> "We twae hae run about the braes,
> And pou'd the Gowans fine;
> But we 've wandered mony a weary foot,
> Syne auld lang syne."

Thus had the cheerful-hearted man spent some two or three years. He had finished the only work his heart was set upon:—he had enclosed his sister's grave, and attempted, yet in vain, to adorn it

---

new enemy, one he had not seen since he had left England in his youth,— in short our common stingy Nettle, and which, by forcibly reminding him of his native land, gave him also infinite delight." Miss E. Bell.—In further illustration Mr. Hepburn has furnished me with the following extract:— "*A Sydney* (*N. S. Wales*) *Flower Show*.—Some of the producers evince their fealty to their native land by exhibiting specimens of her weeds, or more properly field flowers, strangers to the colony, and difficult to rear in the climate; I found myself adoring a Buttercup, idolizing a Daisy, and ardently coveting possession of a glorious Dandelion, which, classically labelled Leontodon Taraxacum, occupied one of the high places in the exhibition, and was treated as an illustrious foreigner."—Our Antipodes, or Rambles in the Australian Colonies, by Lieut.-Col. Mundy (1852), vol. i. p. 72.

somewhat with those flowers which she had ever delighted in. Then an autumn more ungenial than usual aggravated his ailments, and induced a sudden weakness which told him that the fall of the leaves around was but the prelude of his own fate:—

"My life is like the autumn leaf
That trembles in the morn's pale ray,
Its hold is frail, its date is brief,
Restless, and soon to pass away*."

For as he sat under the Beech, whereon he had, when a boy, engraved initials that were scarcely legible now, the bright sun did not warm him, nor cheer him, as it did the landscape he looked upon, and loved so well. There the stalwart husbandman stalked over the fallow field, sowing the seed of a future crop; and the grain that fell to his measured tread was Wheat†. The soldier's face brightened:—Hope filled his bosom:—he returned to his cot grateful and resigned, and he retired to his rest. On the morrow his sister-in-law discovered that the spirit of her brother had gone to the bosom of his Father and his God.

"Such is of well-spent life the time,
When busy days are past;
Man, verging gradual from his prime,
Meets sacred peace at last:
His flowery spring of pleasures o'er,
And summer's full-bloom pride no more,
He gains pacific autumn, mild and bland,
And dauntless braves the stroke of winter's palsied hand.

"For yet a while, a little while,
Involved in wintry gloom,
And lo! another spring shall smile,
A spring eternal bloom:
Then shall he shine, a glorious guest,
In the bright mansions of the blest,
Where due rewards on virtue are bestow'd,
And reap'd the golden fruits of what his autumn sow'd."

---

* "I am a bending, aged tree,
That long has stood the wind and rain;
But now has come a cruel blast,
And my last hold of earth is gane:
Nae leaf o' mine shall greet the spring,
Nae simmer sun exalt my bloom;
But I maun lie before the storm,
And ithers plant them in my room."—BURNS.

† "But some man will say, How are the dead raised up? and with what body do they come? Thou fool, that which thou sowest is not quickened, except it die: and that which thou sowest, thou sowest not that body that shall be, but bare grain, it may chance of Wheat," &c.—St. Paul.

ACOTYLEDONES.

I. Filices = Ferns.

1. Polypodium vulgare. Polypody. Common in rocky and stony spots in deans and moors, on the shaded side of old moss-grown dikes, on picturesque ledges and detached rocks by burns and linns, and at and on the roots of old trees. In thickly wooded deans this fern may be occasionally seen climbing the mossy trunk of some decaying tree to the height of 20 feet and more; and again it may be seen, indifferent to the exposure, covering in dark green patches the face of a moss-grown rock that fronts our stormy sea. It is very elegant everywhere, and not least so in the last localities, such as we have them below the Pigeon's Cove. The green of the fronds is darkest in the first months of winter.

2. P. phegopteris = Lastrea phegopteris. "By mountain rills and waterfalls," rare. N. On shaded rocks by the burn below Langley-ford.—B. Base of Cockburn Law, Dr. Hood. In Blackburn-rigg dean, confined to the north exposure, but abundant, J. Hardy. It occurs, however, only in one place, where it grows intermingled with P. dryopteris and vulgare, other fine ferns, the wood-rush, with arching briers and roses; and I would not give a snap of my finger for the botanist who would not leap for joy at the sight of such an enchanting group. The bank is very steep, and, if not a little careful, you may, perhaps, topple into the little brattling burn underneath.

3. P. dryopteris = Lastrea dryopteris. This, the most beautiful, and the most delicate of our ferns, grows in many of our rocky and heathery deans, and on shaded rocks by our burn sides; and wherever it grows it is abundant. B. In Edmond's dean; in the deans of Penmanshiel, Birchy-bank, Kitchen-cleugh, and Blackburn-rigg, almost always on their northern exposures. Banks of the Whiteadder between the Retreat and Elmford; and of the Dye above Longformacus. Lamington dean, G. Henderson.—N. Sides of the burn below Langley-ford: Yevering Bell, &c.

4. Aspidium aculeatum, Sm. Bot. Gazette, i. 38. = Polystichum aculeatum. In deans, but of rare occurrence. I have specimens from Dunglass dean; and Mr. Hardy finds it sparingly in Red-Clues cleugh. (R. In the beautiful dean at Linthaughlee.)

5. A. lobatum = A. aculeatum, Moug. and Nest. Stirp. Crypt. iii. no. 206. Bot. Gazette, i. 10.—Common "under ebon shades and low-brow'd rocks" in deans, and sometimes in hedge bottoms. Small specimens sometimes stimulate Asp. lonchitis. Such I have found on the wall which bounds the road above the Pease-bridge.

6. A. angulare = Polystichum angulare. See Arnott in Edin. Journ. Nat. and Geogr. Sc. ii. 243. Fries Sum. Scand. i. 252.—B. In Dunglass and the Tower deans; and very abundant in the Pease-

bridge dean*. (R. I have gathered a specimen in the dean at Linthaughlee; and I have another from Ennis, Clare, Ireland.) A specimen from the Pease-bridge is divided at the top into three lesser fronds, all similar to the main frond in character. I have several specimens of Asp. filix-mas with the frond divided into two; and one specimen which is actually branched. In much-shaded situations, many of our ferns are liable to such monstrosities.

7. A. OREOPTERIS = Lastrea oreopteris. In the deans and natural woods of our elevated moors and mountain burns, frequent and abundant. An elegant species.

8. A. THELYPTERIS = Lastrea thelypteris. Very rare. D. In Learmouth bog, plentifully, R. C. Embleton. Recent operations may have lessened the crop of this fern in the cited locality, but cannot, I think, have yet extirpated it.

9. A. FILIX-MAS = Lastrea filix-mas. The Male-Fern. In woods, deans, heathy banks, and at hedge bottoms with a northern aspect, common. A variety distinguished by having the pinnules more distant than in the normal state, obliquely oblong, and more decidedly incised on the margin, occurs in shaded deans; and I observe that the root produces the like fronds for many successive years. A more marked variety occurs, although rarely, in swampy ground at the base of our moorland hills. The fronds are narrow, of a thin delicate texture, with rather distant lanceolate pinnules spotted with only a few clusters of sporules.—The powdered root, or the oleo-resin of the Male-Fern, is an excellent remedy for tape-worm. See Edin. Month. Journ. of Med. Science, June 1852, p. 556 †.

10. A. DILATATUM = Lastrea dilatata = L. multiflora. In moist woods, deans, and under shelving rocks, common. When of a large size, and when the frond is loaded with its black clusters of sporules, this is truly a magnificent fern.

11. LASTREA FŒNISECII, Bab. Man. 411. I have learned the character of this reputed species from specimens given to me by Mr. Borrer. I suspect that it is of frequent occurrence in the district, but it has been passed over unnoted from a belief of its being a mere state of Asp. dilatatum. The specimens in my herbarium are from rocks in the dean below Marshall-Meadows; and from Dirrington

* Mr. Francis erroneously places this dean in Durham; and one object I have in correcting the error is to refer the young botanist to his prettily illustrated book entitled,—"An Analysis of the British Ferns and their Allies." Lond. 1837, 8vo.

† Mr. Newman has figured a singular variety of Asp. filix-mas (Brit. Ferns, p. 52, 1st edit.) in which the frond "is simply pinnate, the margins of the pinnæ being waved, but not divided." The figure is derived from a specimen in the herbarium of the late Mr. Winch. It was first described in my Flora of Berwick, ii. p. 11; and I gave Mr. Winch his specimen. He seems to have omitted the habitat, viz. Ennis, Clare, Ireland, where it was gathered in abundance by the Rev. John Baird.

Law. The latter are small and neat. (I have the same from Ruberslaw, R.)

12. CYSTEA FRAGILIS = Cystopteris fragilis. Uncommon. B. It ornaments the Lady's Bridge in the grounds of Milne-Graden; and abounds on the face of the rocks at Stitchell Linn. Mr. Carr says it is also found in the caves below St. Abb's Head.

13. ASPLENIUM SEPTENTRIONALE. N. In the fissures of the columnar cliffs of Kyloe crags, where it was first noticed by the Rev. J. Baird. (R. Minto crags. Stat. Acc. Roxburghs. p. 361.)

14. A. ALTERNIFOLIUM = A. germanicum. Bell in Trans. Bot. Soc. Edin. i. 119. Tate in Trans. Berw. N. Club, iii. 102.—Mr. Dickson found this rare species "on some sunny rocks, about two miles from Kelso, on the Tweed;" but the locality has eluded all subsequent research. N. On Kyloe crags, G. R. Tate.

15. A. RUTA-MURARIA. In fissures of rocks, and on old walls and ruins. B. On the ramparts of Berwick in front of Wellington Place, Dr. P. W. Maclagan. Abundant in the crevices of rocks near the Rammell Cove, and between it and Fast-Castle, J. Hardy. On sandstone rocks by the Tweed below Ladykirk house, F. Douglas. —R. On Melrose Abbey.—N. On Kyloe and Spindlestone crags.

16. A. TRICHOMANES. In crevices of rocks in deans, on basaltic crags, and on ruins, frequent.

17. A. MARINUM. Of frequent occurrence on the coast of Berwickshire, commencing on the cliffs above the Sandy-beds and the Pigeon's Cove, and recurring at intervals even unto the Cove-shore. It is of small size when the cliffs are abrupt and exposed to the sea blasts, but in the shelter of the Coves it grows luxuriantly, and the fronds attain a length of 12 or 18 inches. Mr. Hardy sent me the finest specimens I have ever seen from the Rammel Cove. The fern also grows on sandstone rocks by the Tweed below Ladykirk house,—a station which is about seven miles distant from the sea.

18. A. ADIANTUM-NIGRUM. In the fissures of rocks in deans, on stony wooded braes, on our sea-banks, and sometimes on ruins. Perhaps the stations where it grows most abundantly are the wooded crags above Belford, and in the dean above Akeld.

19. A. FILIX-FŒMINA = Aspidium filix-fœmina = Athyrium filix-fœmina. The Lady-Fern. On grassy banks in deans with a northern exposure, and in shaded woods, frequent.

20. SCOLOPENDRIUM VULGARE = Asplenium scolopendrium, Lightf. Fl. Scot. 660.—Hart's-Tongue.—B. In the Pigeon's Cove near the Needle-eye, Thompson; in a cove between Fast-Castle and Redheugh; on rocks by the Pease Bridge, and on the wall of the road above the bridge; and in Dunglass-dean. I find it sparingly in several other localities, all, I think, on the east of our district. The fern has a great tendency to become monstrous. See Trevelyan in Trans. Bot. Soc. Edin. i. p. 56. The summit of the frond is often dilated and divided into two or three segments; sometimes it is deeply divided into two of equal size; and sometimes two distinct

fronds are borne on a common stalk. Other specimens are variously lobed; and in others the margin is irregularly sinuated, crisped or curled.

21. Pteris aquilina. The Fern: The Braken or Brakes*. Common on heaths, in deans, and in hedges. Gregarious. It often covers a great extent of hilly and muirish pasture, and the fine short green herbage, which grows under the shade of its plumy fronds, continues unhurt from the summer's heat. The fronds sicken to a rich brown when touched by the first frosts of autumn, but continue long in this withered state; and then the Broom and the Whin assume a darker and fresher green. In sheltered places, this fern will grow to a height of 6 and 7 feet, and becomes ornamental. I have found it of this height in some of our hedges and deans; and although it is more pleasant by far to trace the latter alone, on a summer day, than to describe the character of any, yet I will try to sketch one of the simplest, and unlike any we have hitherto touched.

On the western verge of Coldingham moor, you may, perchance, fall upon a spot covered with coarse herbage, which lures the botanist to examine it with some degree of hope. He finds the ground partly occupied with a pond of considerable size, from three to five feet deep on the far side, but shallowing on the upper to a few inches, and mingling its water with the herbage in a doubtful strife. Beyond this there is a large extent of rushy ground, either dry and hard, or slumpy and wet, according as the season has been "spiry" or "saft." Many plants grow here to gratify and pleasure the explorer. There are Carices of sorts, elegant Grasses, the Butterwort, the pretty Spergula nodosa, the white Galiums, the Grass-of-Parnassus, the marsh Loosestrife, the little Lycopodium, many mosses, a soft cushion here and there of the Sphagnum, and, in the ruts, the little bulbous Rush and the ever-green Montia. The pond itself is less prolific. One side is margined with a little forest of Paddock-pipes, and from their shelter the Pickerell-weeds throw out their oval or elliptical leaves that float so lightly on the surface; and on the side opposite, in a corner, the Glyceria grows green and fresh, as if it felt not the unclouded sun that glistens on all around, and is very hot on these muirs.

From the pond a runlet issues, to which art has given its first direction. After a very short course, the drain leads its water along the bottom of a shabby hedge which scarce hinders the cattle of the moor from trespass on the newly reclaimed fields. The hedge is passed; and we gladly enter, with the burn, a green pasture never touched with the plough. The field is breezy and slopes westwards; it is covered with a short perennial grass, rises into banks on either

* This, however, is a family name, as in the following verse of Robert Tannahill's "Gloomy Winter 's now awa:"

"Round the sylvan fairy nooks,
Feathery Breckans fringe the rocks,
'Neath the brae the burnie jouks,
And ilka thing is cheerie, O."

side, has many knolls, and some of these are bare rocks partially spotted with embrowned patches of the Stonecrop, and, it may be, emblazoned with the white blossoms of the Saxifrage (S. granulata). The burn runs in a hollow down the centre of the field. The hollow is at first shallow, and there are, near its top, several well-heads which add a purer water to the stream. This hurries along as the gape deepens, and becomes, at every step, more declivous; and it murmurs on its way, for the channel is rocky and uneven. You follow down, and are soon lost between the deepening banks. First there are a few stunted grey Willows with Meadow-sweet intermingled, and the bank underneath is carpeted with moss,—much of it tinged of a reddish colour. Again the green herbage comes down to the water-course; and then again succeeds a swampy spot covered with Hypnums relieved with marsh Epilobia, the Butterwort, the Forget-me-not, and such like. Now a tiny linn, over which the water leaps sparkling, arrests you for a space; and not far aside a stony brae with its peculiar weedy vegetation,—the Sheep's-Sorrel, the Gnaphalia, several Hawkweeds, a few dwarf plants of the Foxglove, and the dry half-withered Airæ. But the hollow has insensibly grown into a dean. You can now stroll in its secresy unseen by the bondagers in the fields alongside, or by the herd who basks in the sun on the bank. The water has got increase, and has more force and velocity, and it runs impatient in its rough channel. Hazel mingles with the Willows, Wild Roses and Brambles entangle the brake, a copse-wood of Sloe-thorn occupies the top of the bank, succeeded by a space covered with the Bracken; and the opposite north bank bears a cover of the Whin, gemmed with the herblets (Stellaria graminea, Orobus tuberosus, &c.) which delight in its shelter, and run up amidst its branches. This is a pleasant spot, full of botanical riches; and we leave it with regret, for the steep banks that succeed are planted with wood,—with beech, elm, and plane-tree, and with a few Scotch-firs. There is not much here to interest us; but as we emerge from the shade of this plantation the banks nigh each other, and their fronts become rocky and abrupt, and form a narrow passage through which the water must force itself. This it does in a rumbling fashion. It falls first over a linn, about a yard in height, into a circular caldron of pure water; and then it hurries away in a troubled stream, leaving on one side a little gravelled edge, and running on the other under a projecting ledge. Ferns from both sides, and from every crevice, overhang the darkened chasm. Above, the Polypody leans over the bank in a dark-green fringe; below, tufts of Aspidium lobatum project from under shelving rocks; and the little elegant Asplenia hang out their pretty fronds everywhere, and in a manner that no pencil can delineate. The Lady-Fern grows here often in large tufts; and the Aspidium dilatatum is sure to be looking out alongside of its narrow fronded ally. The Botanist lingers here long,—there is much for his study, and more for his admiration. When at length he emerges from the gloom, he finds on one side an old quarry not without its peculiar interest. The bottom is rough with broken stones grown over with docks and nettles; in a corner there is a thicket of Sloe-thorn, with a glorious bed of Stellaria

holostea; at the base of the rocky face are tufts of the Male-Fern and Aspidium dilatatum; and in chinks of the face itself tufts of the Blue-Bell, the stately Foxglove, the showy Viper's-Bugloss, and a hanging Bush of the Whin, one mass of gold in its season.—I follow the burn no further, for here it loses the dean, and pursues its future course through cultivated fields that vary their character yearly at man's will.

The Bracken is, in some places, mown and dried for litter, or for making a bed to stacks. The ashes were once, in some parts of Berwickshire, as Mr. Hardy has been told, formed into a kind of potash, and, with an admixture of tallow, into a home-made soap. The root is considered to be poisonous to cattle. "E pastu radicum Pteridis aquilinæ, in arvis exaratis, boves in Gallovidia interfecti fuerunt." Walker, Mam. Scot. in Essays, p. 513. There is a suspicion that it is also the cause of the disease called the "Trembles" in sheep. Ibid. p. 525.—When the thickened portion of the rachis below the ground is cut through, either in a direct or oblique direction, the section shows a regular figure which has been said to resemble a spread-eagle; but others maintain that this is the impression of the "deil's foot" upon it. I cannot decide which of the comparisons is nearest to the reality. See Newman's British Ferns, p. 14.

22. Cryptogramma crispa = Allosorus crispus = Pteris crispa. Wahl. Fl. Lapp. 286.—Stone-Fern: Parsley-Fern.—In stony places on our higher hills. N. On Cheviot, at the foot and near the summit of the hill. Yevering Bell.—B. Banks of the Whitcadder about half a mile above Abbey St. Bathans, Rev. Thos. Brown. Black Hill at Earlston.—R. On the Eildon hills. (On Ruberslaw.) —"Then suddenly stopping before a little bunch of Harebell, which, along with some Parsley fern, grew out of the wall near us, he exclaimed, 'How perfectly beautiful that is!'

> 'Would that the little flowers that grow could live,
> Conscious of half the pleasure that they give.'"
> Wordsworth. Memoirs, ii. p. 451.

23. Blechnum boreale = Lomaria spicant. Common in deans and on hill-sides in all our muirs, especially in stony places. Continues green throughout winter.

24. Osmunda regalis. Trans. Berw. N. Club, ii. 83: Trans. Tynes. N. Club, i. 348.—N. On the water ledge above the Routing-Linn, where it was first noticed by Mr. James Mitchell. Mr. Gregson has recently found it in another station near the same locality. The fern is of small size, and in sparing quantity, as if it were the last remnants of its race, and was about to disappear from the district. The locality is full of interest otherwise.

The Horse-bog is a basin-like swamp on Doddington moor, surrounded and defined by a heath-covered bank of slight elevation and gentle acclivity. The bottom, which may be about 300 yards in diameter, is perfectly flat; and has its centre occupied by a thick wood of Birch, Alder, and Grey-Willow, the trees rising to the height of

12 feet, or thereabouts, and being remarkably equal in size. The ground on which they grow is peaty, but firm under the tread in dry weather, covered with a green even sward, dotted with numerous mole hillocks, and threaded with narrow paths formed by the sheep and highland cattle as they pass through it to graze, or to gain the opposite banks. Northwards of the wood there is a broad margin from which every tree has disappeared, and it is now a coarse pasture studded with hassocks of grass and rush bushes; but the woodside on the south is very swampy, dangerous to pass over, and so wet, in some spots, that the Reed-Mace, the Buckbean, the Iris, Sedges and aquatic Carices grow there temptingly. The water drains from the bog by a runlet cut deep in the soft soil, and which takes a course westwards. As this drain gets free from the wood, the banks approach each other, and form a narrow valley, occupied partially, on each side of the drain, with copses of dwarf Willow intermingled with Brambles. The Willows or Saughs are loaded with grey lichens; and about their roots there is a varied and abundant growth of the most beautiful mosses, many of them in fruit. The mosses are of the genera Bryum and Hypnum; and tufts of several Orthotrichæ adorn the stems. Then again the valley widens, and, as the banks rise higher and steeper, it acquires the character of a dean. Of this the northern bank is covered with long heather, and with a sprinkling of large Juniper bushes and of Whins, and with a few scattered Birches of small size. But the opposed bank is a dense brushwood of rather difficult intricacy, wherein Saughs, Hazel, Birch, Sloe, Briers and strong Brambles are confusedly intermingled. A cover of the Whin lines the uppermost edge of the thicket, where there is also a good deal of the Juniper; but the fragrant and resinous Gale mingles in the throng, and sets its rich brown catkins in close contrast with the hoary catkins of the Willow. In spring the Dog-Violet, the Wood-Sorrel, the Wood-Anemone, the Adoxa, the Pilewort, and the Primrose shelter in this copse and gem the ground underfoot, imparting a pleasure to the botanist that no novelty nor rarity can give; in summer it is alive with migratory songsters; in autumn often violated with merry nutting parties; and in winter rich with lichens of many species, and with a most soft and pleasing carpeting of mosses.

The brushwood and its banks are coextensive; so that when you issue from the wood, you enter on a bog almost level with the moor, which expands on each side; and you look forwards on a wide and open prospect bounded by the Cheviots and the hill of Flodden. The burn holds slowly on its westward way; it gets into a harder channel and crosses a sort of road; and thence suddenly throws itself over an abrupt precipice about 10 feet in height. It is there that the Osmunda grows. The burn now hurries down a deep woody glen; and almost immediately leaps the much higher and more beautiful lynn,—the Routing-lynn. This is an attractive scene, richly embowered with wood, and covered with every gift that our northern Flora deemed suitable to its adornment;—but we must re-ascend, for we have passed unnoticed some things worthy of a note.

About 50 yards above the first lynn, the sides of the burn heave on each side with mounds and parallel fosses that have evidently an artificial origin, and that in a far-away time. They are green with sward, and too imperfect to permit their plan to be restored; but it has been conjectured that they are the traces of what had been strongholds and encampments of the Danes,—the savage warriors of the far Norrowaie. From the remains, it has been also inferred that the encampment must have been extensive, and intended for permanency. A little apart, on the south, there juts above the level of the moor a rounded sandstone rock. The scalp of this rock is about 20 feet across, concave, rather smooth, irregularly cracked, and with even spaces; and these are engraved all over with figures each consisting of a series of grooved rings, often dotted in the bottom of the grooves. The figures are scattered, and vary in size, the largest being little more than a foot in diameter, but they are alike in form and in sculpture. Short parallel lines lead away, for a few inches, from some of them; but no two circles appear to have been connected. See Plate VIII.

Such is the spot; and I wish that I could penetrate the mystery of its history. Some portion is easily read. Long—long ago, the bog was a lake. Thither the Red-Deer and the Roes of the wide moor, and the White-Cattle of the forest, came to drink, and, in the encircling wood, to find shelter from the fervour of the summer sun. The Osmunda probably grew abundantly in this wood. Centuries came and went, and each marked its reign by usurpations on the water, until what was lake became a swamp,—a bog,—and a wooded basin;—such is the force and sure result of unchecked vegetation. When a lake, the burn that relieved it from an overflow was much more considerable than that which now is; and it may have been the impassable lake behind, and the plentiful supply of water it furnished, that led the northern invaders to select this locality for the site of their Camp. In front the precipices of the lynns were good defence; and thence the warder's eye could scan the country all around. Presuming the erections to have been Danish, we may date their foundation somewhere about the year 870, when "King Healfdene reigned in Northumbria;" and seventy years and five afterwards, the Camp was wrested from the conquerors in one of the most memorable battles on record*. While you, gentlemen of the Club, bask there on the sculptured rock, let me read to you this narrative of the battle:—

"In the year of grace 945, and in the fourth year of his reign, King Athelstan fought at Brunesburh, one of the greatest battles on record against Anlaf king of Ireland, who had united his forces to those of the Scots and Danes settled in England. Of the grandeur of this conflict, English writers have expatiated in a sort of poetical description, in which they have employed both foreign words and

* The grounds on which we believe that this was the field of the battle of Brunanburg or Brunesburh are stated by Mr. Home in the Trans. Berw. N. Club, ii. p. 115.

metaphors. I therefore give a faithful version of it, in order that, by translating their recital almost word for word, the majesty of the language may exhibit the majestic achievements and the heroism of the English nation.

"At Brunesburh, Athelstan the king, noblest of chiefs, giver of collars, emblems of honour, with his brother Edmund, of a race ancient and illustrious, in the battle, smote with the edge of the sword. The offspring of Edward, the departed king, cleft through the defence of shields, struck down noble warriors. Their innate valour, derived from their fathers, defended their country, its treasures and its hearths, its wealth and its precious things, from hostile nations, in constant wars. The nation of the Irish, and the men of ships, rushed to the mortal fight; the hills re-echoed their shouts. The warriors struggled from the rising of the sun, illuminating depths with its cheerful rays, the candle of God, the torch of the Creator, till the hour when the glorious orb sunk in the west. There numbers fell, Danish by race, transfixed with spears, pierced through their shields; and with them fell the Scottish men, weary and war-sad. But chosen bands of the West-Saxons, the live-long day, unshrinking from toil, struck down the ranks of their barbarous foe; men of high breeding handled the spear, Mercian men hurled their sharp darts. There was no safety to those who with Anlaf, coming over the sea, made for the land in wooden ships, fated to die! Five noble kings fell on the field, in the prime of their youth, pierced with the sword; seven earls of King Anlaf, and Scots without number. Then were the Northmen quelled in their pride. For not a few came over the sea to the contest of war; while but a few heard their king's groans, as, borne on the waves, he fled from the rout. Then was fierce Froda, chief of the Northmen, Constantine with him, King of the Scots, stayed in his boasting, when corpses were strewed on that battle-field, sad remnant left of kindred bands, relations and friends, mixed with the common folk slain in the fight; there, too, his dear son was stretched on the plain, mangled with wounds. Nor could Danish Gude, hoary in wisdom, soft in his words, boast any longer. Nor could Anlaf himself, with the wreck of his troops, vaunt of success in the conflicts of war, in the clashing of spears, in crossing of swords, in councils of wise men. Mothers and nurses wailed for their dear ones, playing the game of ill-fated war with the sons of King Edward.

"The Northmen departed in their nailed barks, and Anlaf, defeated, over the deep sought his own land, sorrowing much. Then the two brothers Wessex regained, leaving behind them relics of war, the flesh of the slain, a bloody prey. Now the black raven with crooked beak, the livid toad, and eagle and kite, the dog and the wolf, with tawny hide, gorged themselves freely on the rich feast. No battle ever was fought in this land so fierce and so bloody, since the time that came hither, over the broad sea, Saxons and Angles, the Britons to rout; famous war-smiths, who struck down the Welsh, defeated their nobles, seized on the land *."

* The Chronicle of Henry of Huntingdon, p. 169. Bohn's Edition. Lond. 1853.

C. That is not exactly a Wellington despatch? S. No—nor much to the purpose! "Bruneburh here or Bruneburh there"—*there* certainly was once a camp, and I think that the circles we lie upon were made by the soldiers of that camp in relief of idleness. They would lie basking here, like bees, in the sun. A. Pooh! that explanation won't do: it will not explain wherefore the figures are all uniform and circular: soldiers' fancies do not run in one vein. S. True—but there was a model to guide them in their work—they were, like children, making a plan of their camp below,—and each trying to excel his neighbour in exactness. A. A mere get-off!—Danish camps were not circular, at least not this one; they were earthen mounds thrown up to aid a natural defence, or to give a vantage-point of offence. I cannot but believe that, on the rock before us, we have engraved a plan, or rude map, of the camps of the district which belonged to the aboriginal Britons. From the rock there is a distinct view of the entire Cheviot range, and, on almost every hill-top of them, was once a circular camp, wherein every tribe sheltered themselves from hostile attacks, and whence they issued on a foray. A tribe, pitched where we are standing, would overlook and watch every movement; and it is natural enough to conclude that some one amongst them, with a taste for the art, might have indulged his skill in making this sketch,—the circles being made to vary in size according to the variation of the camps on the opposed hills. This conjecture, I believe, has suggested itself to others who have examined the rock,—and in especial to the Rev. Wm. Greenfell, to whom I am indebted for the drawing of it; and it receives confirmation from the discovery of another rock, with sculptures of the same character, not above ten miles southwards,—viz. near unto Bewick.

25. Ophioglossum vulgatum. Hardy in Ann. and Mag. N. Hist. Ser. 2, iii. 153. Adder's-Tongue.—B. Rare. Grows in a wood on the side of the Coldstream road, a little north of the road leading to Milne-Graden mains. Near Buskin burn, on Coldingham moor, in a field once cultivated, but now running to moor, J. Hardy. June.

> "For them that are with newts, or snakes, or adders stung,
> He seeketh out an herb that 's called Adder's-tongue,
> As Nature it ordain'd, its own like hurt to cure,
> And sportive did herself to niceties inure."—Drayton.

26. Botrychium lunaria. Moonwort. It occurs, at intervals, over the entire range of the Lammermuirs; and also, in various localities, on the Cheviot hills, as well as on the moors above Kyloe and about Chillingham. Sides of old roads on Penmanshiel moor: moor above Redheugh: St. David's Cairn: old pastures above Butterdean mill, J. Hardy.—Witches, it is very well known, mount the clouds and ride the winds, on broomsticks *; and we have authority for saying that the Moon-fern made the saddle of their fleet steeds:—

---

* "The stunted broom the wenches hide,
For fear that I should up and ride."—Gay.

"The first leet night, quhan the new moon set,
Quhan all was douffe and mirk,
We saddled our naigis wi' the moon-fern leif,
And rode fra Kilmenin kirk.

"Some horses were of the brume-cow framit,
And some of the greine bay tree;
But mine was made of ane humloke schaw,
And a stout stallion was he."—Jas. Hogg.

27. Lycopodium clavatum. Fox's-tail: Tod's-tail: Fox's-claws: Stag-horn moss. The spikes of it are called Forks and Knibes, according as they are single, double or triple. The plant is common on all our moors; and herd callants occasionally decorate their hats by twining the long creeping stem around them.

28. L. alpinum. On heaths. B. Lamberton moor; and not uncommon in the Lammermuirs.—N. "Upon Cheviot hills in Northumberland," T. Johnson in Merc. Bot. pars alt. p. 26. Frequent in Cheviot, Wallis.

29. L. selago. Elevated heaths. B. Lamberton moor: Dirrington law. Not rare on Penmanshiel moor, where are also found L. selaginoides and L. alpinum, J. Hardy.

30. L. selaginoides. Wahl. Fl. Lapp. 292. Boggy places, frequent, but overlooked from its size and unobtrusive character.

31. Equisetum fluviatile=E. telmateja. Horse-tail. Boggy places, particularly in woods, not uncommon. Gregarious. By the Pease-burn near the forester's house, &c. It has disappeared from the Castle hills under the influence of drainage. April.

32. E. arvense. A common weed in damp fields, which it is difficult to eradicate from the depth to which the root penetrates. I have traced this down to fully 12 feet from the surface, on the front of a bank of diluvial sand at Marshall Meadows, exposed by the cuttings made for the railroad. Trans. Berw. N. Club, ii. p. 120. The influence which the Equiseta have thus on the soil is a point for the consideration of the engineer. See Phillips' Memoir of W. Smith, p. 69.

33. E. sylvaticum. In moist woods and deans, and sometimes on open muirs, common. Sometimes called Bottle-brushes from its resemblance to the instrument; but a lady has more appropriately named it the Fairy Larch. It is a beautiful species.

34. E. limosum. In ditches, ponds, and mill dams, common. Distinguished for its full green colour. It is called Paddie or Paddow-pipes, from the form of the stem, and from growing in the haunts of the frog or paddock. The name is, however, applied occasionally to all the species of the genus.

35. E. palustre. Spongy watery places, frequent.

36. E. hyemale. Scrubby-grass,—a name given to it from

having been used to scour or clean wooden dishes; and hence we may infer that the species was once common. It is now a rare plant with us. In the Liberties of Berwick I have gathered it on the moor north of Stony-muir-rig, where it occupied a rough bog several acres in extent; and Mr. Henderson finds it, abundantly, in a ditch between Greystanelees and the sea.

II. Characeæ.

1. Chara vulgaris. Common in shallow ditches, pools in turfy bogs, and in slow muddy runlets.

2. Ch. hispida. D. In the loch in Holy Island; and in the Low at Goswick.

3. Ch. flexilis. B. In Coldingham loch; in the Eye about a mile below Blackburn; and in the Tweed at Fishwick Mains.—Grows under water in tufts, or masses, of a dark green colour speckled with the scarlet fruit. Stem from 4 to 9 inches in height, as slender as sewing-thread, filiform, smooth and even, subpellucid, consisting of a single tube filled with a grass-green granulous fluid, irregularly branched: whorls distant, composed of from 5 to 7 branchlets which are mostly simple, but some are forked, and others trifid: they are continuous or unpartitioned, filiform, and pointed at the end, which is covered with a transparent apex: globules (anthers) red with a colourless envelope, sessile in the axils of the forks, and most numerously produced in the axils of the uppermost whorls, the short branchlets of which bend towards, and cross each other, so as to form a cluster. At Fishwick Mains, where the species is most plentiful with us, it grows at a depth of from 6 to 18 inches and more. It had a profuse crop of globules in May, but I could find no nucules nor germs. The first whorl of branchlets springs from the stem just as this emerges from the soil; and the lower whorls are about $1\frac{1}{2}$ inch distant from each other, the interspace being perfectly filiform and unpartitioned. The upper whorls are closer together; and the clusters they form may be compared to the nest-like umbels of the wild carrot. Mr. Babington says:—"Primary branchlets seldom more than once divided. Sometimes the axillary branchlets are much more divided and clustered, when it has passed for C. nidifica with collectors." Ann. and Mag. N. Hist. Ser. 2. v. p. 83.—The tufts form a favourite "cover" for many insects. Limneus putris, in its young age, creeps thick among the branches, and relieves the green of the plant with spots formed by its dark shell. The Valvatæ and Cyclas are also fond of its shelter; and numerous microscopic Algæ deform the cleanness of the stems by their excessive parasitism.

III. Musci = Mosses.

1. Polytrichum juniperum.
2. —— piliferum.
3. —— commune.
4. —— alpinum.
5. —— urnigerum.
6. —— aloides.
7. —— nanum.
8. —— undulatum.
9. Bartramia pomiformis.
10. —— fontana.
11. —— arcuata.
12. Funaria hygrometrica.
13. Bryum palustre.
14. —— roseum.
15. —— ligulatum.
16. —— hornum.
17. —— rostratum.
18. —— cuspidatum.
19. —— punctatum.
20. —— argenteum.
21. —— capillare.
22. —— cæspititium.
23. —— turbinatum.
24. —— ventricosum.
25. —— pseudo-triquetrum.
26. —— carneum.
27. —— nutans.
28. —— marginatum.
29. Fontinalis antipyretica.
30. Anomodon viticulosum.
31. —— curtipendulum.
32. Hookeria lucens.
33. Hypnum complanatum.
34. —— denticulatum.
35. —— undulatum.
36. —— dendroides.
37. —— alopecurum.
38. —— stramineum.
39. —— purum.
40. —— Schreberi.
41. —— murale.
42. —— serpens.
43. —— tenellum.
44. —— plumosum.
45. —— sericeum.
46. —— lutescens.
47. —— albicans.
48. —— nitens.
49. Hypnum splendens.
50. —— proliferum.
51. —— curvatum.
52. —— myosuroides.
53. —— prælongum.
54. —— Swartzii.
55. —— piliferum.
56. —— rutabulum.
57. —— velutinum.
58. —— populeum.
59. —— ruscifolium.
60. —— striatum.
61. —— confertum.
62. —— cuspidatum.
63. —— cordifolium.
64. —— loreum.
65. —— stellatum.
66. —— squarrosum.
67. —— triquetrum.
68. —— filicinum.
69. —— commutatum.
—— commutatum, β.
70. —— palustre.
71. —— aduncum.
72. —— revolvens.
73. —— fluitans.
74. —— uncinatum.
75. —— scorpioides.
76. —— cupressiforme.
—— cupr. β. lacunosum.
77. —— polyanthos.
78. —— molluscum.
79. Pterogonium gracile.
80. Tortula convoluta.
81. —— revoluta.
82. —— muralis.
83. —— ruralis.
84. —— subulata.
85. —— unguiculata.
86. —— fallax.
87. Didymodon purpureus.
88. —— rigidulus.
89. —— trifarius.
90. —— heteromallus, β.
91. Dicranum bryoides.
92. —— adiantoides.
93. —— taxifolium.
94. —— glaucum.

95. Dicranum squarrosum.
96. —— pellucidum.
97. —— undulatum.
98. —— scoparium.
99. —— heteromallum.
100. —— varium.
101. —— crispum.
102. —— polycarpum.
103. Weissia controversa.
104. —— curvirostra.
105. —— crispula.
106. —— verticillata.
107. —— mucronata.
108. Encalypta vulgaris.
109. Cinclidotus fontinaloides.
110. Trichostomum polyphyllum.
111. —— aciculare.
112. —— fasciculare.
113. —— heterostichon.
114. —— canescens.
115. —— lanuginosum.
116. Grimmia pulvinata.
117. —— tricophylla.
118. —— ovata.
119. —— doniana.
120. —— maritima.
121. —— apocarpa.
122. Orthotrichum cupulatum.
123. —— anomalum.
124. —— affine.
125. Orthotrichum rupincola.
126. —— diaphanum.
127. —— rivulare.
128. —— striatum.
129. —— crispum.
130. —— pulchellum.
131. —— Drummondii.
132. Tetraphis pellucida.
133. —— browniana.
134. Splachnum mnioides, *a*.
135. —— sphæricum.
136. —— ampullaceum.
137. Anictangium ciliatum.
138. Gymnostomum tenue.
139. —— truncatulum.
140. —— ovatum.
141. —— conicum.
142. —— Heimii.
143. —— pyriforme.
144. —— fasciculare.
145. Sphagnum obtusifolium.
146. —— squarrosum.
147. —— acutifolium.
148. —— cuspidatum.
149. Phascum serratum.
150. —— alternifolium.
151. —— subulatum.
152. —— axillare.
153. —— cuspidatum.
154. Andræa rupestris.

In our old pasture lands, in our moors, and in our deans, the Mosses yield only to the Grasses in the share which they contribute to the covering of the earth. The Hypna are the most predominant, and when these abound to excess, the pasture is impoverished, and is said to be full of "Fog."

The species seldom fruit when growing exposed to light in pastures. It is in shaded deans, on moors, on rock and fell, on precipices and scaurs, on earth-capt dikes, on trunks of aged trees, and in wastes, that the botanist must seek for them in this state; and principally in the winter and early spring, when they are in most perfection and luxuriance, and, from their neat elegance, solicit his attention *. But many species fruit in summer, especially the bog and aquatic mosses, the tufted Orthotricha, and the Sphagna. Indeed mosses are many of them to be found in fruit at all seasons; and the

* "Maximam autem voluptatem ex harum rerum cognitione theoretica capiunt Botanici ruri degentes, quando hybernis et primis vernis mensibus silente Flora, hæc Vegetabilium Classis eorum oculis se objicit." Dillenius. See Lightfoot, Fl. Scot. p. 768.

botanist comes on them unawares, when in search of the more obtrusive subjects of his study. Moor and mountain species have never failed to reward our walks even in the solstice.

Although everywhere common, and very dissimilar amongst themselves, the vulgar do not distinguish mosses specifically. The term "fog" comprehends many species of Hypna. The larger kinds of this genus are used for packing fruits, for sheltering plants in flower-pots, and for cleansing worms for the use of the angler. They give shelter to myriads of insects during the winter. The Polytrichum vulgare, from its superior size and heathery habit, has got the name of Silver-Heather or Sponge-Heather, and is sometimes manufactured into neat brushes and door-mats.

The Sphagna act the principal part in filling up pools and marshes in moors *; and, by their rapid growth and decomposition, they contribute more than all other plants—carices, floating grasses, pondweeds, marsh-cinquefoil, charæ and confervæ—to the formation of peat †. Boggy ground where the Sphagna grow freely is mostly an interesting field for the naturalist, but which he must traverse warily. In an autumn's eve, I once found myself lost in the middle of a large peat-ground on Coldingham moor, when the darkness rendered my path insecure and doubtful. I *waled* my way to where a silent and noiseless labourer was still digging his winter fuel, and, on receiving directions how to proceed homewards, I inquired of him "if there was any danger?" when I got the satisfactory answer,—"Oōh! nane at a', Sir, if ye dinna fa' into a peat hole."

Our rare species are—

Phascum alternifolium. Berwickshire: the exact locality unnoted.

Gymnostomum conicum. B. Sea-banks at Greenheugh, J. Hardy.

G. tenue. D. On a shelving sandstone rock in the plantation on the river side above Ord-mill.

Tetraphis browniana. N. On the under side of a shelving rock in the dean at Twizell-house, where it was discovered by Dr. Greville.

Splachnum mnioides. B. On the moor near Winden Cairn, on a mixture of sheep and cow-dung, lying in a hollow from which a

* When they grow in a dry site the Sphagna become reddish; and green when submerged in water.—"The moors about Dirrington are full of Dicranum glaucum. I never found anything but Sphagnum in such situations on Coldingham moor." J. Hardy.

† "At a place called Handy's-land in Coldingham moor, a peat moss was totally burnt out within the memory of many persons. The peat is now a foot deep, and already is dug, and forms an excellent turf." J. Hardy. —Some peat, however, is formed principally of the rotted wood of Hazel, Birch, and such like water-loving trees. A very well marked example of this peat is met with at Grant's-House.

large stone had been dug out, accompanied by Didymodon purpureus and Bryum nutans, J. Hardy.

S. AMPULLACEUM. B. Langstruther bog, and elsewhere on Coldingham moor, J. Hardy.

WEISSIA VERTICILLATA. B. On wet rocks at Eyemouth and Coldingham shores, Rev. A. Baird. Sea-banks at the Rammel Cove; at St. Helen's Chapel; behind the old toll at Dunglass; and in fine fruit in Dunglass dean, J. Hardy.—D. In the dean at Tillmouth.—N. In the dean at Twizell-house.

W. MUCRONATA. Kitchencleugh dean; and on the moor near Blakelaws, and Pyperton hill, J. Hardy.

GRIMMIA TRICOPHYLLA. B. On greywacke rocks near the slate quarry at Oldcambus-West-Mains; and to the east of Redheugh, J. Hardy.

G. DONIANA. On stone walls in Bushiel dean and Penmanshiel; and on stones on Coldingham moor, but rare, J. Hardy.

DICRANUM POLYCARPUM. "Of this rare moss I have gathered two or three specimens from a wall in Bushiel dean, and have others from Dunglass dean. Mr. Wilson, who considers D. strumiferum as a variety of this, assures me that my specimens are quite typical." J. Hardy in Trans. Berw. N. Club, ii. p. 350.

D. SQUARROSUM. Head of the Braid bog near Pyperton hill; and in fruit in Sisterpath in Penmanshiel wood, J. Hardy.

BRYUM ROSTRATUM. Lower part of Red-clues cleugh, J. Hardy.

ORTHOTRICHUM DRUMMONDII. B. On stones and trees in Kitchen cleugh, Penmanshiel wood, and Blackburn-rigg dean, J. Hardy.

HYPNUM POLYANTHOS. D. Brought from a plantation near Twizell Castle by the late Rev. A. Baird.

H. REVOLVENS = H. aduncum, var. Hooker. B. Langstruther bog; Pyperton hill; Bushiel dean, &c., J. Hardy *.

H. STRAMINEUM. Found in fruit at Choose-lea, in the parish of Langton, Rev. T. Brown.

The species most remarkable on account of their beauty are the Sphagna, the Splachna, the Bryum roseum, hornum, and ligulatum when in fruit, the Bartramia fontana, Orthotrichum pulchellum †, Neckera crispa, and Hookeria lucens. The Bartramia is a great favourite with me, for it loves the haunts that I love; and often has it called up a most pleasing emotion when, tracing down our lively burns through their muirland courses, it has stayed me to admire the yellow-green soft rug-like patches with which it covers up every oozy spot, or "well-head," on the rocky margins, and where it puts forth

* For the habitats of the other species, I must refer to the Flora of Berwick; and to the Transactions of our Club.

† This was first described as "nova species" in the Bot. Guide through Northumberland, ii. p. 23, an. 1807, by "the late Mr. W. Brunton, jun."

its beautiful fruit and roseate flowers in profusion *.—We have many others that are very ornamental. I envy no wiseacre who can unheeding pass by a patch of Polytrichum commune when in fruit: I can sit down to feel the softness of every cushion of Dicranum scoparium.

> "..... a bank of moss
> Spongy and swelling, and far more
> Soft than the finest Lemster ore."

I am ever pleased with the singular beauty of Hypnum proliferum,—with the neat mimicry of arboreous elegance in the Hypnum dendroides: and other Hypna please me where, in our hazled deans, they lap over rocks, and shelving banks, and twisted roots, in cushions of luxurious softness, most fit for a botanist to repose on as he lunches, or re-arranges the contents of his overloaded vasculum: and who has not admired the Hypnum commutatum as it hung, in plumy dark-green masses, over the front of some dripping rock, encrusting itself with the calcareous ingredients of the water that oozes through the spongy mass?

In another view the Dicranum bryoides is the most interesting of our mosses in its associations. When Mungo Park had laid himself down to perish in the midst of the vast wilderness, he was roused from his despair by the sight of a moss,—and this moss was Dicranum bryoides! See Flora of Berwick, ii. p. 48 †.

IV. Hepaticæ = Liverworts.

1. Jungermannia asplenioides.
2. —— crenulata.
3. —— emarginata.
4. —— inflata.
5. —— excisa.
6. —— ventricosa.
7. —— bicuspidata.
8. —— byssacea.
9. —— connivens.
10. —— pusilla.
11. —— nemorosa.
12. —— undulata.
13. —— resupinata.
14. —— albicans.
15. —— complanata.
16. —— scalaris.
17. —— bidentata.
18. —— heterophylla.
19. —— barbata.
20. Jungermannia reptans.
21. —— trilobata.
22. —— platyphylla.
23. —— ciliaris.
24. —— tomentilla.
25. —— serpyllifolia.
26. —— dilatata.
27. —— tamarisci.
28. —— trichomanis.
29. —— pinguis.
30. —— multifida.
31. —— epiphylla.
32. —— furcata.
33. —— pubescens.
34. Marchantia polymorpha.
35. —— conica.
36. Anthoceros punctatus.
37. Riccia glauca.

* Linn. Fl. Lapp. p. 335. Eng. Bot. vi. 390.

† I could wish that my readers would here consult Mr. Ward's work on the Growth of Plants in Glazed Cases, p. 61–64.

Under the name of Liver-grass the Marchantia is known to some skilled in herbs as "the sovereign'st thing on earth" to cure a cold or "a binding at the heart." Dec. 27, 1846. I found the wife of a phthisical patient preparing a strong decoction of Liver-grass, which a neighbour had commended as a certain cure for her husband. The strained decoction is sweetened with sugar-candy or liquorice. In the west of our district it has been long used, with success, in dropsies. These popular remedies never fail*. And the Marchantia, after some trials, principally in the Edinburgh Infirmary, has been now introduced into regular practice. The few trials I have made of it induce me to think that the remedy is uncertain, and inferior to many others in diuretic virtue.

V. Lichenes = Lichens.

1. Endocarpon miniatum, γ. N. On the linn in Humbledon dean above Wooler, Sir W. C. Trevelyan, Bart.—B. In Reedy-burn, often encrusting mosses, J. Hardy.

2. Gyrophora proboscidea. N. On rocks near the summit of Hedgehope; and on Cheviot.

3. G. cylindrica. N. On the Cheviots, plentiful.—B. On a dyke in Bushiel dean and near Penmanshiel: Penmanshiel moor, J. Hardy. See Bot. G. North. ii. p. 43.

* From recent inquiry, I am led to believe that the race of Herbalists,—the lineal descents of our Wizards and Weird-Sisters,—is more numerous than I had previously suspected. An itinerant vender of "chap" books tells me that he does not like to make a journey without two or three copies of Culpepper's Herbal in his wallet. The edition he sells is a thick 24mo, and has this title:—"Culpepper's Complete Herbal; with nearly four hundred medicines, made from English Herbs, physically applied to the cure of all Disorders incident to Man; with Rules for compounding them. To which is now added, His English Physician enlarged, forming a complete Family Dispensatory, and natural system of Physic. Halifax: Milner and Sowerby, 1852." There is also an engraved title, which tells us that this "British Herbal" is "by Nick[s] Culpepper, Student in Physic and Astrology," and it is adorned with a group of flowers prettily arranged and neatly etched. There are besides twenty-five "elegant" copper-plates containing the figures of many of the most virtuous herbs; and we have all these, and about 450 closely printed pages, for the sum of 1*s.* 6*d.* The price is a proof of the extensive sale of the volume; and it is a curious fact that a book stuffed with puerile conceits, folly and credulity, should maintain itself alive, and exert so much influence. Yet, indeed, Herbalists are not more believing than many philosophers of the day, who play with clairvoyance, mesmeric trances and visions, and other phantasies; nor than the swallowers—and they are legion—of patent medicines! less innocuous than Culpepper's "simples." The Liverwort is of course one of them. Culpepper informs us that "it is under the dominion of Jupiter, and under the sign Cancer. It is a singular good herb for all diseases of the liver, both to cool and cleanse it, and helpeth inflammations in any part, and the yellow jaundice likewise," &c.

4. G. POLYPHYLLA. B. Near Abbey St. Bathans, Rev. Thos. Brown. Rocks at Dean's-castles; and abundant on stone walls near the site of St. David's cairn, J. Hardy.—N. On Cheviot.

5. G. PELLITA. B. Dykes near Penmanshiel: Coldingham moor, rare, J. Hardy.—N. On Cheviot.

6. NEPHROMA RESUPINATA. B. Penmanshiel wood: woods about the Retreat. Head of Dulaw dean: sea-banks between Redheugh and Dulaw: Cockburnspath Tower dean, J. Hardy.

7. PELTIDEA CANINA. Common.

8. P. HORIZONTALIS. Berwickshire, but I have omitted to attach the locality to my specimen.

9. P. APHTHOSA. B. Near Abbey St. Bathans.

10. P. SPURIA. D. On the banks at Hudshead.

11. P. RUFESCENS. On earth-capt dikes in the immediate neighbourhood of Berwick. Ord-fields.

12. STICTA SCROBICULATA. On mossy rocks in moors; and on trees in deans, not uncommon.

13. S. PULMONARIA. On the trunks of moss-grown trees.

14. S. FULIGINOSA. B. Langton-Lees' Cleugh, Rev. Thos. Brown. On the northern exposure of Witchy Cleugh (in Penmanshiel wood) along with S. scrobiculata, J. Hardy.

15. PARMELIA CAPERATA. B. Hairy-heugh crags, Rev. Thos. Brown.

16. P. CONSPERSA. B. On rocks by burns in the west of Berwickshire, not common. Sweet-Hope and Hairy-heugh crags, Rev. Thos. Brown. Rocks at Oldcambus-west-mains; and on stone walls at Penmanshiel, J. Hardy.

17. P. SAXATILIS. Common. Stoucraw: Stancy-rag.—It is employed by the poorer people in dyeing stockings and nightcaps of a dirty orange-brown colour.—"Like the *feld-elfen* of the Saxons, the usual dress of the Fairies is green; though on the moors, they have been sometimes observed in heath brown, or in weeds dyed with stoucraw or lichen." Minstrel. Scot. Bord. ii. p. 310.

18. P. OMPHALODES. Common.

19. P. OLIVACEA. On trees, common.

20. P. PULVERULENTA. On trunks of trees, common.

21. P. STELLARIS. On trees, not uncommon.

22. P. AQUILA. On rocks by the sea along our whole coast, not unfrequent.—B. Rocks at Sweet-Hope; and Hairy-heugh, Rev. T. Brown.

23. P. PARIETINA. Very common. About Wooler children collect this yellow lichen at Easter, and dye their pasque eggs with it.

24. P. PHYSODES. Common.

25. Collema nigrescens. B. Langton woods, Rev. Thos. Brown.

26. C. cristatum. B. On walls intermixed with mosses, in the neighbourhood of Berwick. Sea-banks at St. Helen's Chapel, and to the east from Redheugh, J. Hardy.

27. C. nigrum. B. On walls with the preceding. "This Lichen forms ink-like stains upon the rocks on which it grows." Hooker.

28. C. lacerum. B. In Red-clues cleugh; Kitchen cleugh; Blackburn-rigg dean: with apothecia in Reedy-burn, J. Hardy.

29. Evernia prunastri. On trees and hedges, very common. —With apothecia on birch-trees in Penmanshiel wood; and on the stems of heather on Penmanshiel moor, J. Hardy.

30. Borrera furfuracea. On old trees and stone walls in our moor districts, but not common.

31. B. ciliaris. Trunks of trees, and on rocks in moors, not uncommon.

32. B. tenella. Very common on trees, shrubs, and stone-walls.

33. Cetraria islandica. Iceland Moss. On the Lammermuirs, not unfrequent.

34. C. glauca. On stones in moors, and on heather.

35. Ramalina fraxinea. On ash-trees, frequent.

36. R. fastigiata. On trees, common.

37. R. farinacea. On trees, walls, and rocks. Mr. Hardy finds it with apothecia, on oak-trees, in Penmanshiel wood. They are of very rare occurrence.

38. R. scopulorum. On rocks by the sea. — The variety cornuta (Lichen siliquosus, Huds.) grows abundantly on Hudshead.

39. Usnea plicata. On old trees, particularly on firs, common. This, with the following and Evernia prunastri, constitute the "idle moss" of Shakespeare. Poets often in their "moss" include the Lichens as a class. Thus Southey in his Lyric on the 1st of December:—

> "Not undelightful now to roam
> The wild heath sparkling on the sight;
> Not undelightful now to pace
> The forest's ample rounds;
>
> "And see the spangled branches shine;
> And mark the moss of many a hue
> That varies the old tree's brown bark,
> Or o'er the grey stone spreads."—Works, p. 120.

40. Alectoria jubata. On trunks of old trees in muirland deans, and on rocks in moors, not uncommon. On the oaks of Kyles

Hill in the parish of Polwarth, in profusion, R. D. Thomson. The variety chalybeiformis occurs abundantly on rocks on Dulaw moor; and on wall tops near Penmanshiel, J. Hardy. N. On Cheviot.

41. Cornicularia aculeata. Common on our elevated moors.

42. C. tristis. N. On rocks near the summit of Hedge-hope, and on Cheviot.

43. C. lanata. N. On Cheviot, Bot. G. North. ii. p. 63 *.

44. Sphærophoron coralloides,—α. and β. On moss-grown rocks in deans and moors. Reedy-burn dean; on the Twinlaw Cairns, J. Hardy. N. On Cheviot.

45. Stereocaulon paschale. The Lammermuirs. On an old road near the Little Blake-law, abundant, J. Hardy.

46. Cladonia uncialis. On moors, frequent.

47. C. rangiferina. On moors, abundant. See Linn. Fl. Lapp. p. 346.

48. C. gracilis. On moors, frequent.

49. Scyphophorus pyxidatus. On banks and in muirs, common.

50. S. fimbriatus. Heaths, frequent.

51. S. digitatus. In woods at the root of old trees, not common.

52. S. coccifERUS. On moors, common.

53. S. bellidiflorus. N. On Cheviot.

54. Isidium corallinum. On rocks in deans and on moors, not common.

55. Lichina pygmæa. On rocks at and above high-water mark, common.

56. L. confinis. Probably a variety of the preceding, and affecting similar habitats.

57. Bæomyces rufus. On gravelly banks in heathy places, not unfrequent.

58. B. roseus. Abundant on Penmanshiel moor, J. Hardy.

59. Calicium sphærocephalum. On the bark of trees about Stitchel House, Rev. Thos. Brown.

60. Arthonia swartziana. On the bark of the Ash and Elm, occasionally.—Mr. Borrer considers Arth. astroidea "too nearly allied to this;" and I have already expressed the same suspicion. Fl. Berw. ii. p. 101.

61. Opegrapha notha. On the bark of the Ash, not common.

* Cornicularia pubescens.—N. On Cheviot, Bot. G. North. ii. p. 63. The species is a spurious one. See Hooker, Br. Fl. i. p. 229.

62. O. SAXATILIS. D. On sandstone rocks at Hudshead, and on stone walls in its vicinity, abundant.

63. O. ATRA. On the bark of trees, common.

64. O. SCRIPTA. On the Hazel, frequent.

65. VERRUCARIA EPIDERMIDIS. On the bark of the Birch and of the Oak.

66. V. EPIGÆA. Dry barren banks, near Berwick, rare. On the sea-banks between Redheugh and Dulaw, rare, J. Hardy.

67. LECIDEA PETRÆA. On rocks and stones, not uncommon. Abundant on some parts of Holy-Island.

68. L. PARASEMA. On trees and rocks, very common. See Fl. Berw. ii. p. 87.

69. L. CONFLUENS. On rocks, frequent.

70. L. SANGUINARIA. On rocks in our higher moors.

71. L. ULIGINOSA. On Cheviot, Bot. G. North. ii. p. 33.

72. L. SILACEA. On Cheviot, Bot. G. North. ii. p. 34.

73. L. DICKSONII. On rocks at the foot of Cheviot, Bot. G. North. ii. p. 36.

74. L. GEOGRAPHICA. On rocks of greywacke, common: on Cheviot.

75. L. ŒDERI. On greywacke in the west of Berwickshire.

76. L. SULPHUREA. D. On rocks at and about Hudshead.

77. L. VERNALIS. On trees, common.

78. L. ATRO-ALBA. On greywacke rocks in the west of Berwickshire.

79. L. FERRUGINEA. Sandstone rocks on the coast of N. Durham and Berwickshire. Greywacke rocks in Dulaw dean, and on stone walls near Penmanshiel, J. Hardy.

80. PSORA DECIPIENS. B. On a dike in Bushiel dean, and on Penmanshiel wood dike, J. Hardy.—N. On rocks behind Wooler.

81. SQUAMMARIA MURORUM. On rocks and walls, frequent.

82. S. HYPNORUM. On rocks and mosses. B. Dean in Penmanshiel wood behind the forester's house. Sea-banks to the east of Redheugh, J. Hardy.

83. LECANORA ATRA. On rocks and trees, common.

84. L. SUBFUSCA. On rocks and trees, common.

85. L. VENTOSA. Mountain rocks. Cockburn Law. On stones on the banks of Watch water; and on the Twinlaw Cairns: Dulaw dean, J. Hardy.

86. L. BYSSINA. D. On rocks at Hudshead, rare.

87. L. PARELLA. On rocks, stone walls, and trees, common.

88. L. TARTAREA. On rocks, not uncommon.

89. L. VITELLINA. On stone walls, near the base, common. L. citrina, Fl. Berw. ii. p. 85.

90. PERTUSARIA COMMUNIS. On trunks of trees. Var. β. leioplaca: on the Birch. Fl. Berw. ii. p. 103.

91. VARIOLARIA CONSPURCATA. D. On sandstone rocks at Hudshead.

92. V. DISCOIDEA. On trunks of trees, occasionally.

93. V. FAGINEA. On trees, especially of Beech and Ash, near the base of the trunk, abundant.

94. SPILOMA GREGARIUM, var. α, cinnabarinum. On the bark of trees, not common.

95. LEPRARIA FLAVA. On the rugged bark of trees near the base of the trunk.

96. L. ALBA. On Hypna and Lichens in shaded situations.

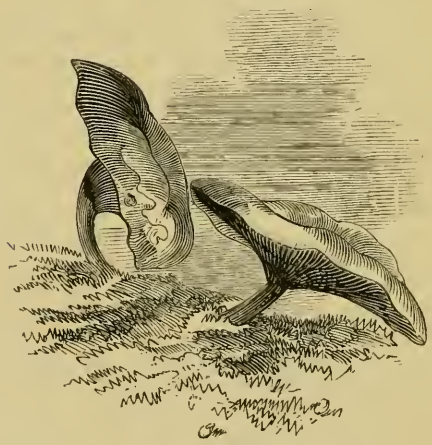
97. L. LATEBRARUM. On rocks in caverns; and on stumps of old hedges, common. See Fl. Berw. ii. p. 103.—This ambiguous production is omitted in Hooker's English Flora.

It is a favourite speculation with popular writers, and with many botanists, that Nature begins her work of clothing the naked surface of new soils, and of rocks especially, with crust-like and leprous Lichens. These, by their decomposition, and by some solvent action on the rock, are asserted to prepare a little soil wherein mosses may germinate and root; and thenceforward there is an easy way, in time, made for the appearance of the grasses, herbs, and trees. "The growth of vegetation," says Professor Schouw, "upon naked cliffs commenced with lichens and mosses, which produced a little mould and accumulations of water, in which the seeds of other plants could germinate; and plants of greater dimensions, bushes and trees, gradually made their appearance." The Earth, Plants, and Man, p. 24.—The picture is, I believe, an ideal one,—perhaps an offshoot of that theory of development which apparently has charms to seduce us to its entertainment, in spite of all observation and fact to the contrary. There is no proof of such a succession of vegetation in nature as that above indicated; and all I have seen is opposed to the existence of it. In these days of road- and rail-making there are many places where it might be traced. Now, what I observe is this:—If the exposed surface of the rock is smooth and damp, confervoid growths, which are but the rudiments of mosses, cover the wall about the base where the air is stagnant and loaded with moisture; and mosses and phanogamous plants get a precarious footing higher up. But if less smooth, and the surface is exposed to a fresher air, the first plants that appear are the Blue-Bell, two or three grasses, the Craw-toes, several mosses of the genera Tortula and Funaria, a tuft of Dandelion, a Thistle, or a Docken. These will occupy the surface—die and be renewed—for years before a puny Lichen appears; and when the tribe comes at length with a few scaly representatives, the contribution

it makes to the soil is trivial and of slow addition. There is nothing more remarkable in the tribe than the occasional slow growth and long persistency of individual plants.

Again, if the exposed surface is earthy, Lichens neither begin nor forward the work. A bank, that came under frequent observation, had been completely denuded of its covering to the depth of several feet in spring. In the September following, I found the surface of this bank partially covered with a various vegetation of the commonest and coarsest plants. Here is a list of them: White-Clover, Dandelion, the common Mallow, Henbane, Hemlock, Chickweed, Rib-grass, Black Medick, Fumitory, Ragweed, Grundsel, Sow-thistle, Horse-Gowan, the common Thistle, Polygonum aviculare, the Nettle, the Poa annua, and a moss in patches without fruit, probably a Tortula! This catalogue was made on the spot, and is a complete one for a surface of more than 20 feet in length. The coarser plants are now gradually disappearing before the encroachments of some grasses that have been subsequently developed.

VI. Fungi.



AGARICUS INVOLUTUS.

Hymenomycetes.

Meadow Species.

Agaricus procerus.
—— personatus.
—— muralis.
—— ericetorum.
Agaricus fragrans.
—— cyathiformis.
—— gambosus. 1.
—— tener.
—— Georgii.

1. = Ag. graveolens, Fl. Berw. ii. p. 166. See Ann. Nat. Hist. vi. p. 355.

Agaricus campestris.
—— præcox.
—— æruginosus.
—— pratensis.
—— virgineus.
—— psittacinus.
—— ceraceus.
—— conicus.
—— leporinus.
—— oreades.
—— comatus.
—— plicatilis.
Clavaria pratensis.
—— rosea.
—— inæqualis.
—— vermicularis.

Woodland Species.

Agaricus vaginatus.
—— muscarius.
—— granulosus.
—— caperatus.
—— eburneus.
—— multiformis.
—— emeticus.
—— adustus.
—— torminosus.
—— deliciosus.
—— plumbeus.
—— pluteus, Batsch.
—— flaccidus.
—— giganteus.
—— odorus.
—— grammopodius.
—— sulphureus.
—— laccatus.
—— ochraceus.
—— radicatus.
—— peronatus.
—— esculentus.
—— purus.
—— gentilis.
—— callochrous.
—— glaucopus.
—— cinnamomeus.
—— involutus. Fig.
—— lachrymabundus.
Cantharellus cibarius.
Boletus luteus.
—— Grevillei.
—— bovinus.
—— subtomentosus.
—— luridus.
—— edulis.
—— scaber.
Hydnum repandum.
Thelephora terrestris.
—— laciniata.
Clavaria coralloides.
—— rugosa.

Sharn-born Species.

Agaricus semiglobatus.
—— semiovatus.
—— fimiputris.
—— ephemerus.

Parasitical Species.

Agaricus hypnorum.
Cantharellus lobatus.
—— lævis.

On Dead Wood, &c.

Agaricus melleus.
—— rutilans.
—— velutipes.
—— tenacellus.
—— clavus.
—— ramealis.
—— rotula.
—— androsaceus.
—— epiphyllus.
—— caulicinalis. 2.
—— alcalinus.
—— galericulatus.
—— polygrammus.
—— Belliæ.
—— corticola.
—— cochleatus.
—— lepideus.
—— stypticus.
—— mitis.
—— applicatus.
—— squarrosus.
—— erinaceus.
—— panuoides. 3.

2.=Ag. arundicola, Fl. Berw. ii. p. 181.
3.=Ag. mollis, Fl. Berw. ii. p. 184. pl. 7.

Agaricus mollis.
—— variabilis.
—— lateritius.
—— fascicularis.
—— atramentarius.
—— micaceus.
—— disseminatus.
Merulius corium.
—— lachrymans.
Dædalea quercina.
Polyporus squamosus.
—— varius.
—— hispidus.
—— betulinus.
Polyporus versicolor.
—— abietinus.
—— scoticus. 4.
—— fomentarius.
Polyporus vaporarius.
—— vulgaris.
Hydnum auriscalpium.
—— membranaceum.
Sistotrema confluens.
Irpex lacteus.
Thelephora rubiginosa.
—— rugosa.
—— hirsuta.
—— quercina.
—— incrustans.
—— sambuci.
Tremella mesenterica.
—— albida.
—— sarcoides.
Exidia glandulosa.
Dacrymyces stillatus.
—— urticæ.

The Mushroom (which includes Agaricus campestris and Ag. Georgii) is the only species used in our district, and principally for the making of Catsup. All the other species of the family are looked upon with suspicion; and the newspapers annually report cases of poisoning from the eating of one or other of them. There is seldom any truth in these reports*. The ill-favoured and deliquescent species, as well as the large Polypori and Boleti, are called Paddie or Paddock-stools or Tade-stools, and are believed to be pre-eminently virulent in their qualities, imbibed, no doubt, from the reptiles that lurk about them—

> "The grieslie Todestoole growne there mought I see,
> And loathed Paddockes lording on the same."

Spenser had here in view the Polyporus squamosus, which often solicits the attention of the incurious, when it grows large and imbricated, tile over tile, from the stumps of ash-trees. The tiles are cut into pieces, and smoothed, when they are used, as strops, to give a sharp edge to the razor.

4.=P. medulla-panis, Fl. Berw. ii. p. 159. To my specimens the Rev. M. J. Berkeley has appended the following note:—"P. scoticus, Klotzsch: P. subpileatus, Fr. This is probably the true P. medulla-panis: at least Jacquin's figure agrees exactly."

* Mr. Adam, of Forfar, has detailed, in an interesting manner, several cases of poisoning from Agaricus muscarius, which some may be tempted to eat, from its beauty. Med. and Phys. Journal, xxxii. (1815) p. 369. Of this species Goldsmith has given an amusing account in reference to its intoxicating effects. Citizen of the World, Letter xxxii. A case of poisoning from Agaricus campanulatus in Med. and Phys. Journal, xxxvi. (1816) p. 451. And Professor Balfour tells us that "Agaricus procerus is eaten abroad; but I have seen a case of poisoning from it occur in Edinburgh." Manual, p. 553.

The "fairy rings" which spot our old meadows and our links,—our sea-banks and upland pastures, are connected, in some way, with the special mode of growth of Agaricus oreades and A. gambosus;—at least I have never noticed these rings except where there could be found some traces of these Agarics. The green "sour-grass" is not, however, always in a circle, for it may be sometimes seen running in a wavy line, interrupted irregularly. The theory that the grass owes its greenness and circularity to the decomposition of successive growths of the mushrooms on the one side, and to the exhaustion of the soil on the other, labours under difficulties which have not been satisfactorily explained. See Ann. and Mag. N. Hist. xix. p. 209: and the Gardener's Chronicle for Oct. 9, 1852.

Some of the species are very beautiful, as for example, Agaricus muscarius, rutilans, conicus, comatus, and plicatilis. Our rarest species are—

1. Agaricus caperatus. Plate IX. Trans. Berw. N. Club, ii. 174.

Desc.—Pileus convex, orbiculate, obtusely umbonate, even, very dry, of a uniform gall-stone yellow, usually paler about the top, covered with a mealy powder of the same colour, which, in some places, is gathered into an imperfect scaliness, the margin inflected, entire or more or less sinuated: veil as thick as writing-paper, persistent, stretched between the margin and stem, to which it is closely attached, thickly covered with the same powder as the pileus, but more distinctly squamulose; flesh thick, solid and firm, white, not changing colour, mild and insipid in taste. Gills numerous, adnate, four in a set, dry and smooth, sienna-yellow, juiceless: sporules elliptical, very light honey-yellow. Stem cylindrical, as thick as a man's thumb, erect and solid, the root rounded but not bulbous, whitened with the mycelia, the shaft of the same colour as the pileus, paler on the lower half, covered with the ochraceous powder or slightly squamulose, the flesh white, yellowish under the epidermis; the portion of stalk within the veil is pale, a very little fibrillose, but not powdered. Diameter of the pileus 3 inches; height of the stem 5 inches, the diameter nearly an inch; breadth of the gills 2-10ths. —From the woods at Anton's-hill, Sept. 16, 1845.

This truly magnificent agaric was ascertained satisfactorily to be the Agaricus caperatus of Fl. Dan. t. 1675, by the Rev. M. J. Berkeley, to whom a specimen was sent. It is not the Ag. caperatus of the English Flora, nor the Ag. pudicus of Bulliard; and is a beautiful addition to the already extensive list of British species, for which we are indebted to the researches of Miss Hunter, an honorary member of the Club. The spores, Mr. Berkeley says, are very peculiar. "Its greatest peculiarity," says Miss Hunter, "is its being so profusely covered over its pileus, curtain, and stem, with a yellowish powder, in such quantities as to make it disagreeable to gather, as gloves and everything it came in contact with was covered. And I am much struck with the toughness and permanency of the curtain, which remains after the pileus has attained its full size."

When small and young the pileus is obtusely campanulate, but in

other respects it does not differ from the mature plant. Miss Hunter has found it on one spot only in the wood behind the house of Anton's-hill, and there sparingly. Like most of its genus it is eaten greedily by slugs and the maggot of a dipterous fly; and it seems to be, says Miss Hunter, "a most favourite food of a sort of beetle," which permits very few specimens to attain maturity without great mutilation.

2. Agaricus Belliæ. Plate X. fig. 1. Berkeley in Ann. Nat. Hist. vi. 356. pl. 10. figs. 1–4.—"Pileus membranaceous, inverted, deeply cyathiform, half an inch broad, smooth, waved and furrowed at the edges, of a wood-brown hue, becoming paler when dry. Gills adnato-decurrent, at least in the inverted pileus, 1 line broad, rather distant, thick, more or less undulated, wrinkled on the sides and in the interstices with flexuous veins, once or twice divided near the edge, of a dull chalky white. Spores oblong, colourless, pellucid. Stem $1\frac{1}{2}$ inch high, about 1 line thick, fistular throughout, erect, stiff and elastic, smooth, white or very pale wood-brown above, towards the base of a dirty dark brown, becoming paler when dry, when it appears covered with a white mealiness. It is composed of two distinct strata, as will be seen by the figure. Root slightly incrassated, bent and fixed to the matrix by a dense cottony web.—A very remarkable and graceful species. The inversion of the pileus commences at a very early period, and together with the vein-like gills, gives it somewhat the appearance of a Stylobates, in which genus the pileus is completely obliterated. Its place in the system is near that of A. tricolor, A. & S., A. stellatus, Sow., &c., but its immediate affinities are not evident. It has analogies with several Collybiæ and the cognate species of Marasmius, as M. erythropus, Fr. The gills are very peculiar."

Agaricus Belliæ was found by Miss E. Bell growing from dead stalks of the common Reed at the Hirsel; nor has it been found anywhere else. Mr. Berkeley's description, and our figure, are derived from specimens communicated by Miss E. Bell; and, at my request, Mr. Berkeley gave her name to the species,—an honour which she merited at my hand on account of the many interesting additions she had made to the Berwickshire Flora.

3. Agaricus leporinus=Hygrophorus leporinus. Found upon the moor above Twizell-house by Mr. Selby in Sept. 1849. Drawings made from living specimens were sent to the Rev. M. J. Berkeley; and the name we owe to his kind attention. I know of no description of the species.

4. Irpex lacteus. Berkeley in Brit. Fl. ii. 2. p. 161.—I found this "most elegant fungus" on the trunk and branches of a Beech at Newwaterhaugh, nearly twenty-five years ago; and it has never since been my good fortune to see it.

5. Clavaria rosea, Berkeley in Hooker's Brit. Fl. ii. 2. p. 175. —This fine species was added to the British Flora by our friend and fellow-member Dr. Francis Douglas, who found it growing, in

autumn, in sandy soil, on the side of a road about three miles from Kelso. The Club, on a visit to the station, found several specimens.

In the economy of Nature the Hymenomycetes serve to nourish a host of insects and of snails:—"Fungi," saith Linnæus, "magis conveniunt alendis muscis, quam hominibus." But their main purpose seems to be the hastening of the decomposition of the organic substances which supply the office of matrix to them, and with which they unite in forming humus or vegetable soil. Ann. N. Hist. ix. p. 293. In the performance of this useful office one species—the Merulius lachrymans or Dry-Rot—steps often aside to do great disservice to man. I need not indicate the extent of its destruction in the wood-work of many of our houses and buildings; but it is seldom that we see the Fungus in its full development, when it is really a beautiful object.

Discomycetes.

Terrene Species.

Geoglossum hirsutum.
—— viride. (1)
Morchella esculenta.
Helvella crispa.
—— lacunosa.
—— elastica.
Leotia lubrica.
Peziza cochleata.
—— acetabulum. (2)
—— vesiculosa.
—— umbrosa.
—— rudis. (3)
—— macropus.
—— leucoloma.
—— humosa.
—— hemisphærica.

Sharn-born Species.

Peziza granulata.
—— stercorea.

Lignicolous.

Peziza aurantia.
—— coccinea.
—— scutellata.
—— virginea.
—— calycina.
—— cerinea.
—— albo-violascens.
—— Schumacheri.
—— villosa.
—— anomala. (4)
Peziza rosæ.
—— fusarioides.
—— fusca.
—— Johnstoni. (5)
—— firma.
—— fructigena.
—— inflexa.
—— Persoonii.
—— campanula.
—— æruginosa.
—— citrina.
—— pallescens.
—— atrata.
—— punctata.
Bulgaria inquinans.
—— sarcoides.
Tubercularia vulgaris.
—— confluens.
—— granulata.
Cenangium ferrugineum.
—— quercinum.
Hysterium pulicare.
—— elongatum, β.
—— fraxini.
—— rugosum.
—— conigenum.
—— rubi.
—— pinastri.
—— β. juniperi.
—— culmigenum.
—— scirpium.
Leptostroma vulgare.
—— spirææ.

Parasitical.

Typhula erythropus.
Peziza tuberosa.
Ascobolus trifolii.
Phascidium patella.
—— vaccinii.
Phascidium coronatum.
—— repandum.
Rhytisma salicinum.
—— acerinum.
—— punctatum.

(1.) Geoglossum viride. "Banks of Tweed near Melrose." Prof. Walker Arnott.

(2.) Peziza acetabulum. On the primrose bank in the plantation above Newwater-haugh, May 22, 1845.

(3.) P. rudis. Berkeley in Trans. Berk. N. Club, ii. 190 ; and in Ann. and Mag. N. Hist. vii. Ser. 2. p. 183. "Hab. Pease-bridge dean, on a shallow gravelly and peat soil, with Polytrichum aloides. —Whole plant of a watery yellowish-brown with a vinous tint, paler when dry, of a rather firm texture. Cup $\frac{1}{2}$–$\frac{3}{4}$ inch high, $\frac{1}{3}$ of an inch broad, turbinato-stipitate, minutely fibrilloso-striate. Hymenium plane, or more or less pitted and depressed, but not truly cupshaped. Asci elongated, clavate, much attenuated below. Sporidia obovate-oblong. Stem more or less elongated, angular, pitted, sometimes striate.—Resembling somewhat in habit Pez. punicea, as figured by Purton, Midl. Fl. tab. 25. Its closest affinity seems to be with Pez. clavus, Alb. and Schw., and like that it has a tougher texture than others of the section Mollisia. The sporidia in that species, which is extremely variable as regards colour and form, are regularly oblongo-elliptic, with a nucleus at either extremity, and not narrower at one end as in the present species." Berkeley.

(4.) P. anomala. I regret that, from incorrect observation of this species, I have unfortunately introduced two spurious plants into the British Flora, viz. Trichia faginea and Peziza faginea. The blunder has been corrected by the Rev. M. J. Berkeley in Hooker's Brit. Flora, ii. 2. p. 199.

(5.) P. Johnstoni. "Sessilis; cupulis globosis subturbinatis demum tantum apertis rufis sericeo-nitentibus, subtus subiculo lato nigro-fusco grumoso-piloso affixis. Berwick, Dr. Johnston." See Plate XI. fig. 3.

"Forming a uniform stratum on decayed sticks. Cups half a line broad, at first brown and pulverulent, at length rufous, rather thin with a satiny lustre, subturbinate, with the margin permanently inflected, at first quite closed. Subiculum granulated, grumous, obscurely floccose.—I have seen no other specimen of this remarkable species, which has some resemblance to P. fusca, but is in reality extremely different, and has rather a tropical than a European habit. If the figure of P. fusca by Letellier be not exaggerated, it may possibly be the same species, but I am inclined to think such is not the case. I have in vain waited to obtain further information respecting this species, and am now unable to give any account of its fructification, as I cannot find any perfect asci." Berkeley in Ann. and Mag. Nat. Hist. xiii. 356.

The Morel (Morchella esculenta) and the Helvellæ are eatable, but are not eaten. The Peziza coccinea is the most beautiful of

Fungi ; and has an additional interest in the eyes of the botanist, for its beauty led Persoon to the study of the class, of the scientific arrangement of which he was the first to lay the foundation. The appointed office of the order is the decomposition of organic matter, and making it again fit for entering into new combinations.

Pyrenomycetes.

Sphæria hypoxylon.
—— polymorpha.
—— fragiformis.
—— fusca.
—— multiformis.
—— gelatinosa.
—— stigma.
—— disciformis.
—— flavo-virens.
—— lata.
—— leioplaca.
—— prunastri.
—— stellulata.
—— nivea.
—— angulata.
—— leiphæmia.
—— ambiens.
—— quaternata.
—— convergens.
—— cinnabarina.
—— laburni. (1)
—— berberidis.
—— dothidea.
—— filicina.
—— junci.
—— nebulosa.
—— longissima.
—— graminis.
—— coryli.
—— aquila. (2)
—— sanguinea.
—— episphæria.
—— spermoides.
—— moriformis.
—— pulvis-pyrius.
—— eutypa.
—— corticis.
—— tiliæ.
—— rudis.
—— strobilina.
—— sepinicola.
—— derasa. (3)

Sphæria acuta.
—— sentina. (4)
—— complanata.
—— doliolum.
—— caulium.
—— culmifraga.
—— herbarum.
—— phæocomes.
—— trichella.
—— setacea.
—— hederæ.
—— craterium.
—— artocreas.
—— recutita.
—— maculæformis.
—— rumicis. (5)
—— punctiformis.
—— —— β. angelicæ.
—— —— γ. graminis.
—— ægopodii.
—— hederæcola.
—— fagicola.
Eustegia ilicis.
Cytispora carphosperma.
Ceuthospora phacidioides.
Phoma salignum.
Ectostroma tiliæ.
Dothidea ribesia.
—— Johnstoni. (6)
—— sphærioides.
—— typhina.
—— rubra.
—— ulmi.
—— heraclei.
—— ranunculi.
—— alchemillæ.
—— robertiani.
—— alnea.
Asteroma brassicæ.
Leptostroma vulgare. (7)
Myxosporium paradoxum. (8)
Phlyctæna Johnstoni. (9)

(1.) " Gravem censemus Floristarum errorem has in plantarum indigenarum numero habere ; species, quæ in planta peregrina tantum observata est et cum hac sine dubio periret, pro indigena neutiquam haberi potest. Hæc methodus omnes geographicas rationes subvertit, ut regio caldariis et arboreto exotico ornata ex his multiplo plures numeret species quam regio nativa." Fries, Sum. Veg. Scand. p. 378.—There is so much of truth in this opinion, that it would be well in future to distinguish the alien species by some mark in our Floras. I have followed the usual rule, for it would be unwise to omit them until it has been proved that the fungi produced on alien or naturalized plants are identical with those produced on the same plants in their native climates.

(2.) In the British Flora, ii. 2. p. 110, my species was referred to Sph. byssiseda ; but Mr. Berkeley has since seen the specimens, which belong to Sph. aquila. See also Ann. Nat. Hist. vi. p. 361.

(3.) Sph. derasa = S. calva, Johnst. Fl. Berw. ii. p. 128. Berkeley and Broome in Ann. and Mag. N. Hist. Ser. 2. ix. p. 328, pl. 11. fig. 25, *b*.—The species had been previously referred to Sph. comata. Brit. Fl. ii. 2. p. 273.

(4.) The specimens in my collection, which Mr. Berkeley thinks belong to the true Sph. sentina, are on the leaves of the Black Currant.

(5.) Sph. rumicis = S. lichenoides, var. *d*. Johnst. Fl. Berw. ii. p. 131. See Berkeley and Broome in Ann. and Mag. N. Hist. Ser. 2. ix. p. 384.

(6.) D. Johnstoni, " maculis minutis orbicularibus ; cellulis concentricis semiliberis, ascis brevibus ; sporidiis obovato-oblongis uniseptatis." Berkeley and Broome in Ann. and Mag. N. Hist. Ser. 2. ix. p. 386.—Plate XI. fig. 1.

" On the leaves of a small Epilobium, Berwick, Dr. Johnston.—Forming little black spots about a line broad studded with concentric half-free cells with a little round aperture ; there are sometimes a few scattered short stiff brown hairs on the surface, occasionally converging over the orifice. Asci short, subcylindrical, generally rather thicker below. Sporidia biseriate, obovate-oblong, at length pale brown, uniseptate.—Dothidea Epilobii is totally different, and there is no other species with which it can be compared. It has almost the habit of a Depazea, or rather of Sphæria Rumicis." Berkeley and Broome.

(7.) See Berkeley in Ann. Nat. Hist. vi. p. 365.

(8.) On the leaves of Polygala vulgaris in September. I am indebted to the Rev. M. J. Berkeley for the determination of the species ; and I avail myself of this place to express my grateful sense of the many obligations I owe to this profound and learned mycologist. Mr. Berkeley has examined, with patient care and kindness, most of my specimens of Fungi ; and he has furnished me with the drawings of those new species which occupy two of the plates of this work. I return him my best and sincere thanks.

(9.) "PHLYCTÆNA JOHNSTONI, n. s. Maculis latioribus ; pseudoperitheciis brunneis ; sporophoris flexuosis amplis, sporis elongatis curvis, medio nodulosis." Berkeley and Broome in Ann. and Mag. N. Hist. Ser. 2. ix. p. 328.—Plate XI. fig. 2.

"The spores are several times longer than in the original species, the sporophores highly developed, and towards the centre of the spores there is generally a distinct knot, and frequently the outline is more or less irregular." Berkeley.

GASTEROMYCETES.

Phallus fœtidus. (1)
Scleroderma vulgare, β.
Elaphomyces granulatus.
Nidularia crucibulum.
Lycogala epidendrum.
Reticularia umbrina.
Æthalium scepticum, α.
Diderma vernicosum.
—— Trevelyani. (2)
Didymium farinaceum.
Physarum bryophilum.
—— nutans, α.
Craterium leucocephalum.
Stemonites fasciculata.
—— typhoides. (3)
—— violacea. (4)
Arcyria punicea.
Trichia clavata.
—— turbinata.
Licea fragiformis.
Sclerotium semen.
—— muscorum.
—— durum.
—— populneum.
—— salicinum.
—— neglectum. (5)
—— pteridis.
Spermoëdia clavus. (6)
Onygena equina.
Raccodium cellare.
Erysiphe pannosa.
—— communis. (7)
—— penicillata.
—— guttata.
Chætomium elatum.
Illosporium roseum.
Bovista nigrescens.
Lycoperdon giganteum. (8)
—— gemmatum.
—— pyriforme.

(1.) "I had been struck with the published accounts of the extraordinary growth of Phallus fœtidus, which was said to attain a height of 4 or 5 inches in as many hours. I procured three or four specimens in an undeveloped state, and placed them in a small glazed case. All but one grew during my temporary absence from home. I was determined not to lose sight of the last specimen ; and observing one evening that there was a small rent in the volva, indicating the approaching development of the plant, I watched it all night, and at eight in the morning the summit of the pileus began to push through the jelly-like matter with which it was surrounded. In the course of twenty-five minutes it shot up 3 inches, and attained its full elevation of 4 inches in one hour and a half. The entire life of the Phallus was four days." Ward. On the Growth of Plants in Glazed Cases, p. 68.—Several Fungi have a more transitory life ; and some are equally rapid in their growth, or more so. The Agaricus comatus is, I think, an example of this fact ; and I should be inclined to produce Lycoperdon giganteum as another. This remarkable fungus occasionally creates a passing wonder from

the size to which it attains, and gets paragraphed in our local newspapers. Specimens of the size of a man's head are not uncommon. At one of our Club meetings the late Mr. George Darling of Fowberry exhibited a specimen which measured 4 feet 9 inches in circumference,—the growth, probably, of a single day *.

(2.) Found by Mrs. Selby on Polytrichum undulatum in the dean at Twizell house. Very rare, and most beautiful. It is the Leangium Trevelyani of Dr. Greville (Scot. Crypt. Flora, iii. pl. 132), who has figured it with his usual skill, and gave its name to commemorate its discoverer, Sir Walter Calvery Trevelyan, Bart. Dr. Greville writes, "This is the most elegant of all the minute Gastromyci I ever beheld. Whether we regard the extreme symmetry of its form, or its delicate structure and pleasing colour, it forms one of the most charming little objects the eye can possibly rest upon. A diminutive moss infused life and hope into the exhausted frame of the African traveller Mungo Park, when he had cast himself down to die; the beauty of its minute foliage brought to perfection in the desert, at once raised his eye to that Power which had not failed to nourish the delicate structure it had created: and is there any one of taste and right feeling, in whose breast some similar emotion does not arise at the sight of so perfect a form as that of our minute Leangium?"

(3.) The specimens were named by the Rev. M. J. Berkeley. They were referred to St. fasciculata in Berw. Fl. ii. p. 191.

(4.) Berkeley and Broome in Ann. and Mag. Nat. Hist. Ser. 2. v. p. 366.—It is figured on our Plate XI. fig. 4.

(5.) The Sc. pustula of the Berw. Fl. ii. p. 137. See Ann. Nat. Hist. i. p. 205.

(6.) The Ergot. See Med. and Phys. Journ. xxxii. p. 99: Curtis, Brit. Grasses, p. 73–76: Ann. and Mag. N. Hist. Ser. 2. ix. p. 494. I have never observed it in any cultivated cereal in our district. It is common on the Glyceriæ and Dactylis glomerata.

(7.) The Erysiphes frequently do great harm to the peas in our gardens and fields by the sort of mould or mildew they spread over the leaves. The mildew of the turnip-crop; and the sort of mealiness which so often crimps and disfigures the leaves of the Hawthorn

* The most remarkable instance of rapid growth in a vegetable, says Dr. Lindley, "is stated by Junghuns, who has known the Bovista (Lycoperdon) giganteum, a kind of Fungus, in damp weather, grow in a single night from a mere point to the size of a huge gourd; so that, supposing its cellules to be not less than $\frac{1}{200}$ of an inch in diameter, and it is probable they are nearer the $\frac{1}{400}$, it may be estimated to have consisted, when full-grown, of about 47,000,000,000 cellules; and supposing it to have gained its size in the course of twelve hours, its cells must have developed at the rate of 4,000,000,000 per hour, or of more than sixty-six millions in the minute." See Hooker's Journ. of Botany, i. p. 216.—But the growth may be owing, as Mr. Ward believes, more to the enlargement of the cells than to this prodigious increase of them.

in our hedges, appear also to be from species of Erysiphe in a state of imperfect development.

(8.) The Lycoperdons are the Puff-balls*, the Fuss-ba's, the Debil's Snuff-Boxes, the Blind-man's-buff of our children and youngsters, who puff the light powdery contents of the fungus into each other's faces, in frolicsome play. Aye!—those were happy days; but the game was not one that could be played except in out-of-the-way places amidst our hills, where I spent my early years. And often have I attempted to blind my fellows thus;—and ever in vain;—yet it is pleasant now, when years have whitened the hair, and ripened the body to what must soon be harvest, to recall those simple acts of the bygone time. It is a "Pleasure of Memory." I am almost afraid to think that no such frolics may be enacted now,—perhaps no such names are now familiar. Boys have grown big and wise with the age, and are men from the beginning. This may be development:—I am suspicious whether in the right direction. But right or wrong, I, at all events, wish them to have such blithesome games as ours were when we went agathering Fussba's, that we might puff their light dust into the faces of those we then liked best, and may never forget!

Hyphomycetes.

Ascophora mucedo.
Mucor mucedo.
—— caninus.
Pachnocybe subulata.
Dematium hispidulum.
Helminthosporium macrocarpum.
Cladosporium herbarum.
Aspergillus glaucus.
Botrytis cinerea.
Botrytis crustosa.
—— parasitica.
—— umbellata. (1)
—— infestans. (2)
Penicillium crustaceum.
Oidium monilioides.
Sporendonema muscæ.
Sepedonium chrysospermum.
Fusisporium flavo-virens.

(1.) See Trans. Berw. N. Club, ii. p. 214; and Ann. and Mag. N. Hist. Ser. 2. i. p. 467.

(2.) This infests potatoes diseased with the "rot" or murrain. See Berkeley on the Potato murrain, p. 24; and Ann. and Mag. N. Hist. xvii. p. 276.

The members of this order are confounded, in common language, under the name of Mould. With its universal presence, and destructive property, every one is familiar, for it appears to be, not the result, but the cause of the decay and decomposition of the bodies it infests. Some of the species are beautiful microscopic objects.

* "An old name of the fungus named Puff-ball is Puck-fist, which is plainly Puck's-fist, and not Puff-fist as Nares conjectured; for its Irish name is Cos-a-Phooka, or Pooka's foot, *i. e.* Puck's-foot." Keightley's Fairy Mythology, p. 317.

Coniomycetes.

Fusarium tremelloides.
Septoria ulmi.
—— ægopodii.
Didymosporium elevatum.
Melanconium conglomeratum.
Discella carbonacea. (1)
Aregma bulbosum.
—— gracile.
—— mucronatum.
—— obtusatum.
Torula herbarum.
—— antennata.
Podisoma juniperi.
—— sabinæ.
Puccinia graminis.
—— β. arundinis.
—— polygonorum.
—— anemones.
—— vaginalium.
—— veronicarum.
—— menthæ.
—— scorodoniæ.
—— compositarum.
—— syngenesiarum.
—— glomerata.
—— variabilis.
—— valantiæ.
—— umbelliferarum.
—— galiorum. (2)
—— bullaria.
—— calthæ.
—— violarum.
—— lychnidearum.
—— epilobii.
—— circææ.
—— ulmariæ.
—— fabæ.
—— saxifragarum.
Æcidium allii.
—— tragopogonis.
—— compositarum.
—— valerianacearum.
—— periclymeni.
—— ranunculacearum.
—— Parnassiæ.
—— Bunii. (3)
—— geranii.
—— berberidis.
Æcidium violæ.
—— albescens.
—— epilobii.
—— grossulariæ.
—— cornutum.
—— laceratum.
—— urticæ.
—— pini.
—— pedicularis.
—— asperifolii.
Uredo segetum.
—— caries. (4)
—— linearis.
—— rubigo. (5)
—— urceolarum.
—— oblongata.
—— polygonorum.
—— rhinanthacearum.
—— labiatarum.
—— vacciniorum.
—— pyrolæ.
—— campanulæ.
—— compransor.
—— suaveolens.
—— senecionis.
—— flosculorum.
—— umbellatarum.
—— ranunculacearum.
—— geranii.
—— violarum.
—— caryophyllacearum.
—— epilobii.
—— rosæ.
—— effusa.
—— ruborum.
—— potentillarum.
—— intrusa.
—— apiculosa.
—— bifrons.
—— appendiculosa.
—— candida.
—— lini.
—— euphorbiæ.
—— cylindrica.
—— saliceti.
—— caprearum.
—— valerianæ. (6)
—— hypodytes. (7)

(1.) = the Stilbospora microsperma of the Berw. Fl. ii. p. 192. See Berkeley in Ann. and Mag. N. Hist. Ser. 2. v. p. 377.—The Stilbospora biloculata of Berw. Fl. ii. p. 192, is a species of Diplodia. Ann. Nat. Hist. vi. p. 365.

(2.) "Dr. Johnston finds a beautiful variety on Asperula odorata." Berkeley in Ann. Nat. Hist. vi. p. 439.—This variety was found in the dean at Twizell-house.

(3.) My specimens are on the leaves of Sanicula europæa.

(4.) This is the Smut or Black-ball of our cereals. Our farmers know very well the difference between it and Uredo segetum, but they do not distinguish them by name,—that of Smut being common to both species. Black-ball is, however, limited to U. caries.

(5.) This is the Rust of corn, familiar to every one engaged in agriculture.

(6.) Ann. and Mag. N. Hist. Ser. 2. v. 463.—I have observed this to infest, for many years in succession, the leaves of a few plants of the Valerian where it grows at the side of the footpath a little beyond the Old Castle; but I have never seen it anywhere else in our district. Difference of season makes no difference in the appearance or abundance of the parasite. I have observed the same fact in regard to the production of some Erysiphes, as has been also noted by Link. Willd. Sp. Plant. vi. p. 101.

(7.) In 1831 I first discovered this species on Spittal Links, where it had attacked the culms of the grasses (Festucæ and Poæ) extending over a considerable space; and handfuls of specimens might have been easily gathered. Mr. Berkeley has favoured me with the figure of it engraved on Plate X. fig. 2; and he has recorded its habitat in Ann. and Mag. Nat. Hist. vi. p. 439.—From the date of my first finding it until July 1851, the plant did not once occur to me; and the original habitat was frequently searched*. At the latter date I found it infesting the Rye-grass on the road-side near Belford Station; where I also saw it in 1852.

Spurious Fungi.

Rhizomorpha subcorticalis.
—— divergens.
—— sctiformis.
Erineum pyrinum.
—— acerinum.
—— fagineum.
Erineum betulinum.
—— populinum.
—— alneum.
Byssus floccosa.
Himantia candida.

* June 27.—To-day I found the parasite again on the grasses of Spittal Links, in profusion.

VII. Algæ.

Marine Species. (1)

Halidrys siliquosa.
Fucus vesiculosus. (2)
—— ceranoides.
—— serratus.
—— nodosus.
—— canaliculatus.
Himanthalia lorea.
Desmarestia aculeata.
Alaria esculenta.
Laminaria digitata.
—— bulbosa.
—— saccharina.
—— phyllitis.
Chorda filum.
Dictyosiphon fœniculaceus.
Punctaria plantaginea.
Asperococcus echinatus.
Litosiphon laminariæ.
Chordaria flagelliformis.
Mesogloia vermicularis.
Leathesia tuberiformis.
Ralfsia verrucosa.
Elachistea fucicola.
—— flaccida.
Cladostephus spongiosus.
Sphacelaria cirrhosa.
Ectocarpus littoralis.
Odonthalia dentata.
Rhodomela lycopodioides.
—— subfusca.
Polysiphonia urceolata.
—— fibrata.
—— elongata.
—— Grevillei.
—— Brodiæi.
—— nigrescens.
—— atro-rubescens.
—— fastigiata.
Dasya coccinea.
Laurencia pinnatifida.
Chrysymenia clavellosa.
Chylocladia articulata.
Corallina officinalis.
Melobesia polymorpha. (3)
—— membranacea.
—— farinosa.
Hildenbrandtia rubra.
Delesseria sanguinea.
—— sinuosa.
—— alata.
—— angustissima.
Nitophyllum laceratum.
Plocamium coccineum.
Rhodymenia laciniata.
—— cristata.
—— palmata.
Gelidium corneum.
Gigartina mammillosus.
Chondrus crispus.
Phyllophora rubens.
—— membranifolius.
—— Brodiæi.
Gymnogongrus plicata.
Polyides rotundus.
Furcellaria fastigiata.
Dumontia filiformis.
Iridæa edulis.
Cruoria pellita.
Ptilota plumosa.
—— sericea.
Ceramium rubrum.
—— diaphanum.
—— ciliatum.
Griffithsia setacea.
Callithamnion Turneri.
—— arbuscula.
—— Rothii.
Cladophora rupestris.
—— lætevirens.
—— uncialis.
Conferva tortuosa.
—— implexa.
Enteromorpha intestinalis.
—— compressa.
Ulva latissima. (4)
—— lactuca.
Porphyra laciniata.
—— vulgaris.
Bangia fusco-purpurea.
Rivularia plicata.
—— atra.
Calothrix confervicola.
Lyngbya flacca.

Fresh-water Species.

Lemania fluviatilis.
Batrachospermum moniliforme.
—— cærulescens.
Draparnaldia plumosa.
Chætophora endiviæfolia.
—— tuberculosa.
Conferva bombycina.
—— zonata.
—— rivularis.
—— capillaris.
—— fracta.
—— glomerata.
Mougeotia genuflexa.
Tyndaridea pectinata.
Zygnema deciminum.
—— quininum.
—— commune.
—— parvum.
Vaucheria Dillwynii.
—— terrestris.
—— geminata.
—— cæspitosa.
Rivularia pisum.
Calothrix distorta.
Lyngbya muralis.
Oscillatoria limosa.
—— tenuis.
—— decorticans.
—— nigra.
—— autumnalis.
—— violacea.
—— ochracea.
Ulva bullosa.
—— crispa.
Ulva calophylla.
Palmella protuberans.
—— Grevillei.
—— hyalina.
—— rupestris.
—— cruenta.
Nostoc commune.
—— muscorum.
—— verrucosum.
Chantransia Hermanni.
—— chalybea. (5)
Chroolepus aureus.
—— odoratus.
—— ebeneus. (6)
Protonema orthotrichi.

Exilaria fasciculata.
Schizonema Smithii.

* *

Exilaria truncata.
Fragilaria rhabdosoma.
—— hyemalis.
Meridion circulare.
Gomphonema geminatum.
—— minutissimum.
—— dichotomum.
Diatoma vulgare.
—— tenue.
—— marinum.
Podosphenia ocellatum.
Closterium Ehrenbergii.
Navicula amphisbæna.
—— phœnicenteron.
Aulacocystis pellucida.
Gyrosigma hippocampa.

(1.) I have followed the nomenclature of Professor Harvey in his "Manual of the British Marine Algæ." Lond. 1849.—At the same time I cannot refrain from acknowledging my early obligations, in the study of this class, to Lightfoot's Flora Scotica, and to the Synopsis of British Fuci by Dawson Turner. The latter is a work of great merit.—For the Fresh-water species, and those which may be properly called the aërial, I have adopted the names of Mr. Hassall in his History of the British Freshwater Algæ. Lond. 1845.

(2.) Of this common species we have three distinct enough varieties: viz. α. without vesicles, often proliferous, the pods ovate.= Fucus spiralis, Withering: β. without vesicles, the frond narrow, the pods linear-elliptic, elongated: γ. with vesicles, the pods elliptical.—The F. ceranoides is abundant on the sides of the Tweed, from the

bridge to its mouth, growing intermingled with F. vesiculosus, of which, in my Flora of Berwick, I had considered it a variety.

(3.) Continued observation only strengthens my belief that all the Melobesiæ are merely states, and abortive growths, of Corallina officinalis.

(4.) "Is called in Northumberland slauke: whyche in lent the poore people sethe, and that with lekes, and oyniones. They put it in a poot, and smoze it, as they call it: and then it looketh blake, and then put they oyniones to it, and eat it." W. Turner.

(5.) See Ralfs on Chantransia in Ann. and Mag. N. Hist. Ser. 2. viii. p. 302.

(6.)=Cystocoleus ebeneus, Thwaites in Ann. and Mag. N. Hist. Ser. 2. iii. p. 211. pl. viii. B. fig. 1–3.

The marine Algæ or Sea-Weeds, when thrown on shore in a mass, are called Wrec or Sea-Ware, which is carted away as a manure for the land*. "It is the opinion of many good farmers, that a cart-load of good ware is at any season of the year equivalent to an equal load of dung; but at the time of sowing barley, it is considered as at least of double value; partly owing to its being, as they say, ripe at that season, having the strongest manuring quality, and partly to its efficacy in producing fine crops of barley, both in quantity and quality. When the ground is very dry, the ware is often spread upon the ground after the corn is sown, or even sprung; and when applied in this manner, it is supposed to produce the best and the surest effects. Ware-barley is much esteemed by the brewers, and is in great request for seed, particularly by the upland farmers, as it is said to ripen at least a week earlier than any other; so that it sells for a shilling the boll higher than the current price." Rev. A. Spence in Stat. Ac. of Cockburnspath. (Stat. Ac. of Scot. xiii. p. 225.)—The Fucus vesiculosus and serratus are called Wrack, and are used for packing lobsters and crabs to be sent to a distant market. The Laminariæ form the Tangle or Ware-Tangle; and Rhodomenia palmata is the Dulse, eaten occasionally by a whimsical invalid, and sometimes by children, who, however, do not much relish it†. The Laver (Porphyræ) is only known to a few, and is not prepared for use on our coast; neither is the Irish-Moss, although it (Chondrus crispus) abounds. The Enteromorphæ fill

* Early charters made Wrec the property of individual proprietors. In one of 1228, confirming to the Prior and Convent of Durham certain rights, we have—"Convenit etiam inter nos ex una parte et dictos Priorem et Conventum Dunelm' ex altera de Wrec: scilicet quod Wrec de mari ubicumque inventum in terra vel feodo Prioris dimidiabitur inter nos et successores nostros et Priorem Dunelm' qui pro tempore fuerit." The grant extended to Island- and Norhamshires. See Raine's N. Durham, p. 5.

† "In Itinerario meo Angliæ invenio Northumbros Fucum quandam *Dulse* dictum esitare, quem Lactucæ marinæ speciem esse tum conjectabar; qui proculdubio idem est cum Scotorum *Dils*, nec multum abludit à Lactuca marina." Raii Syn. edit. 1696, p. 3.—On "Sea-Weeds as food," see Gard. Chronicle, Sept. 25, 1852: Trans. Bot. Soc. Edin. i. p. xxiii.

the bed of the lower part of the Tweed during the summer, and are well known to our fishermen under the name of Slake, for, by clogging his nets, they offer a serious obstacle to his work. The Confervæ so common in burns in the heat of summer are called Green-Hood.

The fresh-water Algæ have a few species (Chroolepi, Nostoc, Palmellæ, &c.) which leave the water to make acquaintance with the Fungi; and some marine species (Ralfsia and Cruoria) come almost in contact with the Lichens. Some, to connect the fresh-water and marine kinds, occupy brackish waters. Of this intermediate class are the Conferva tortuosa which covers the tide-bathed margins of the Tweed in spring; and the Enteromorphæ which extend from the sea to beyond the reach of salt water, and as far as the influence of the tide is felt in the Tweed and Whiteadder. The Fucus vesiculosus accompanies them into water that is only slightly tainted, for it is found at the mouth of the Whiteadder, and in the Tweed as far as the Union-Bridge; but the character of the plant is altered by the change, for the river plants are thinner, darker-coloured, and less loaded with vesicles than the marine, and the ends of the divisions, in the spring season, are much enlarged and swollen with air *. The Ectocarpus littoralis meets this Fucus so soon as the water of the river becomes salted, at all tides; and as we near the mouth, Fucus canaliculatus, serratus, and nodosus appear almost coëtaneously, with some marine confervæ.

There are zones of vegetation on our shores marked by peculiar species, but the limits are rather loosely defined, and the species frequently intermingle. The Fucoideæ occupy, with their blackness, all the space between low and high water marks, living an amphibious sort of life, alternately exposed to the atmosphere, and covered by the tide. The proper Fuci form the outer band of the zone, while the Halidrys and Himanthalia appear principally on its inner or sea margin; and the greater portion of sea-weeds intermixed grow in the intermediate space, giving variety to the shore by their green and olive and purple fronds. The Laminarieæ occupy a lower region, for they are strictly aquatic, and choose therefore a station not liable to be left dry at the reflux of the tide. You may see them, within the ledge of rocks that bounds our sea at its lowest ebb, floating on the heaving ocean, their broad dark fronds rising in the furrow of the wave and again dipping beneath on its swell, in a sort of luxurious motion that you almost envy. The day is sunny and tempting, and you approach nearer, admiring that singularly beautiful vegetation which crowds every crystal pool in the rocks you walk over; exceeding in beauty the plants of the earth †. Often

* Compare with Fleming's observations in Ann. and Mag. N. Hist. Ser. 2. ii. p. 67. See also Professor Edward Forbes on the zones occupied by Sea-weeds and marine Invertebrata, in Ann. and Mag. N. Hist. Ser. 2. vii. p. 232.

† Our sea-side visitors in summer—if pretty and young—are sure to be admirers of Ptilota plumosa and Plocamium coccineum; and they preserve

have I stood enraptured. There the Tangle shoots half across the deep basin,—one broad and smooth,—another like a ribbon, curled and crisped on the edges; the Sea-thongs and the Fuci hang drooping down the sides; numbers of feathery red, purple and green confervæ and confervoid growths clothe the basin; corallines shoot up in plumy layers; and tufted sea-weeds of lesser size and superior beauty to those coarser kinds that crowd the shore, look up to us from the water in many hues and forms. I do love these sea-weeds. And so you reach at length the sea; and you see amongst this forest of Tangle an undergrowth of serrated Fuci, Sea-thongs, Lavers and Dulse, while beautiful coloured Polysiphoniæ and others grow thick on the abrupt side of every overhanging rock. No spot is bare. Even the stalks of many of the Tangles are shaggy with delicate sea-weeds,—such as I do believe the Mermaid selects wherewith to hang the walls of her favourite cove. This is certain, that the walls of some of our Coves, as those in Holy Island, are clothed with a deep red velvet formed by the overlying filaments of the Polysiphonia urceolata.

---

specimens spread out tastefully on paper as memorials of their Spittal visit. A Mr. Stonehouse says admiringly of the Plocamium,—"It is so beautiful that it may seem artificial." How's Phy. Brit. 43.—There are many Master Stonehouses who measure the beauties of Nature by the standard of Man's art.

AGARICUS GRAMMOPODIUS.

THE FOSSIL FLORA

OF THE

MOUNTAIN LIMESTONE FORMATION

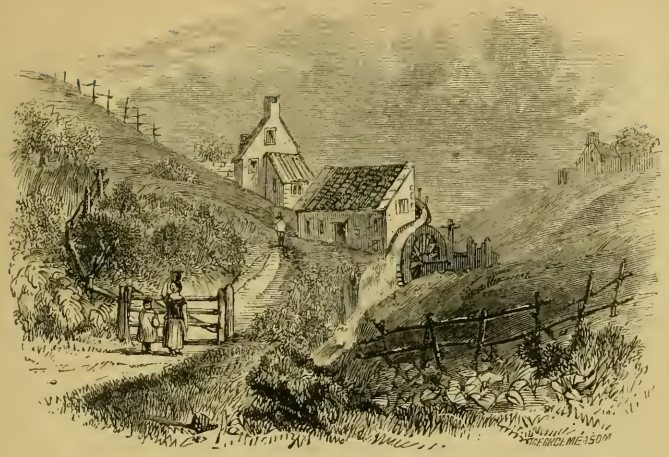
OF THE

EASTERN BORDERS,

IN CONNECTION WITH THE

NATURAL HISTORY OF COAL.

By GEORGE TATE, F.G.S.



OLD CASTLE MILL—THAT WAS.

The Natural History of the Eastern Borders would be incomplete, without some account of the Flora which grew in the district at periods long anterior to the present, and which is now to be found only in a fossil state. Poetry has not yet lent to these Floral remains the attractions of Song, nor are they associated in the popular mind with legends and customs; but their relation to Coal, a most valuable mineral raised in the district, and the bearing which these relics of a by-gone age have on important geological questions, invest them with a degree both of popular and of scientific interest. Instead, therefore, of merely presenting a bare enumeration of Fossil Plants with technical descriptions, we shall endeavour to render the subject more interesting and instructive by treating our Fossil Botany in connection with the Natural History of Coal; and in carrying out this design, local facts will be used to illustrate scientific truths.

This History will include an explanation of the relative position in which Coal is found, proofs of its vegetable origin, a description of the materials—the plants—whence it has been derived, an exposition of the changes which it has undergone, and, in connection with these, some general views of the Era during which it was deposited.

The relative position of Coal.

Geologists have distinctly proved, by observations made in all parts of the world, that the stratified rocks, which form part of the crust of the earth, have been gradually and successively deposited out of water at different periods. These rocks are divided into Systems and Formations, each marked by its own peculiar conditions, and distinguishable by its own characteristic organic remains or fossils. Imperfect coal is found in small quantities in most formations. Rarely, however, has true coal been seen among the oldest rocks; indeed, the only instance we know of is that described by Mr. Sharpe, who has proved that an anthracitic coal, 6 feet thick, in Portugal, belongs to

the Lower Silurian formation. The most remarkable coal in the Secondary series is a rich bituminous bed, 36 feet thick, in Eastern Virginia, which Sir Charles Lyell has shown to be not more ancient than the Lias formation. But, with these and a few other exceptions, productive or valuable seams of coal are found only in that formation which lies between the Old Red Sandstone and the New Red Sandstone, and which has been called Carboniferous, because a large amount of carbon is locked up in the coal and limestone beds. Now this conclusion is of practical value, enabling the Geologist to point out the class of rocks which will yield coal, and also to prevent fruitless and expensive boring and sinking in formations, which he knows are unproductive of coal seams.

Associated with coal are groups of strata which are repeated, with some slight variation, as often as a coal-bed occurs. These strata are shales, or mud which had been deposited by water; sandstones, or grains of silica or sand, such as are seen on the sea-coast, bound together by a cement, which may either be silica itself, lime, or oxide of iron ; not unfrequently ironstone nodules are sticking in the shale like plums in a pudding. In Northumberland, sandstone occasionally forms the floor of a coal for a short distance; but in other parts of Great Britain, in America and in Nova Scotia, a peculiar bed of "under-clay," which, in most instances, is a good fire-clay, lies beneath every coal-seam, and is penetrated in all directions by a singular fossil plant.

The Carboniferous formation may be divided into two sections—the Coal-measures distinctively so called; and the Mountain Limestone, which in some districts, as in Derbyshire, yields no coal, but which in Northumberland, Berwickshire, and Russia contains coal-seams of some value. We shall take these sections as they occur in Northumberland and Berwickshire, to show their distinctive difference. If a line be drawn from the mouth of the Aln to a point a little east of Hexham, the district south-east of that line would be the coal-measures, which have, at their base, a sandstone of considerable thickness called the "millstone grit;" but the remainder of the county would be, generally speaking, the mountain limestone, which passes underneath the coal-measures, and which had been deposited before them. The porphyry of the Cheviots has been protruded through the sedimentary rocks in the western part of the county ; a tongue of Silurian beds, highly inclined, abuts against this porphyry near the head of the Coquet; and on the eastern flank, there yet remains a patch of Old Red conglomerate. Several dikes of basalt cut through the mountain limestone beds, and the same volcanic rock is interstratified with them, and presents, in several places, bold cliff-faces towards the west. The Mountain Limestone is continued into Berwickshire in a narrow strip along the coast to near Burnmouth ; it also covers a considerable portion of that county north-west of the Tweed, forming something like an arc of a circle, of which Dunse is the summit, and Berwick and Kelso the extremities of the chord. It has for its base chiefly old red sandstone, which occupies the middle portion of the county, and rests unconformably on

the upturned edges of the Silurian formation. These ancient slaty rocks form the Lammermuir hills; they exhibit many foldings and contortions, and extend across the northern portion of the county, being connected with a range which traverses the island in a south-western direction. The county has been broken through at many points by great masses of porphyritic and trap rocks.

Now if the coast be traversed from the Tyne to the Aln, there will be seen exposed in the cliffs several series of underclays, coals, shales, and sandstones; shale-beds near the coal will be found more or less carbonaceous, so much so in some cases, that they may be burnt; and there will also be observed remains of plants in considerable numbers, imbedded in the clays, shales, and sandstones. At a few points, as at Bondicar, fossil shells will be met with, which had formerly lived in fresh water, for, though not the same species as the Anodons and Unios, or freshwater Mussels now living in our rivers, they resemble, and are nearly allied to, these shells; but, throughout the whole series of 2000 feet in thickness, not one fragment will be seen which can be attributed to a marine origin. When, however, we pass the Aln, new historical records of the era are presented, indicating the prevalence of different conditions: we have still several series of coal-seams associated with the usual characteristic strata, but interstratified with them are limestones and calcareous shales which are crowded with marine relics—with Corals, Encrinites, Mollusks, Trilobites, and Fish. Successive generations of these animals had lived and died, and been tranquilly entombed under precipitates from the ocean, or among mud which had been carried into it from the land. This complicated series of rocks is the Mountain Limestone formation, and it presents wherever it is found, whether in Northumberland or Berwickshire, the same assemblage of facts. At two extreme points of the district, whence we derive the materials for our fossil flora, the uniformity of conditions is not uninterestingly shown. According to Mr. Stevenson, Lepidodendrons and Calamites (plants hereafter to be described) occur at Langton Burn, in Berwickshire, along with Gyracanthus, the spine of a bony fish; and on Alnwick Moor, in Northumberland, the same plants are found in the sandstone associated with the Gyracanthus Alwicensis of Agassiz.

The Origin of Coal.

That coal has been derived from plants which once grew on the surface of the earth can now be conclusively established. This indeed might be inferred from the vast number of fossil plants in beds both below and above a coal-seam. An examination of the cliffs on the sea-coast near to Berwick, at North Sunderland and Howick, and of inland quarries, will discover trunks and branches of trees with the vegetable matter of the interior replaced by sand or mud, but with the original bark converted into coal. The inference is strengthened by a comparison of the composition of living vegetables with that of coal; for, leaving out accidental and unessential ingredients, both are formed of the

same elements, existing in each only in different proportions; both are composed of carbon, oxygen, hydrogen, and nitrogen, but the carbon is proportionally much larger, and the gases much smaller, in the coal than in the wood.

Direct evidence of the vegetable origin of coal has been furnished by Mr. Hutton. He cut thin slices of the different kinds of coal found near Newcastle, and on examining them with the microscope, he found that they exhibited fine reticulations or network of the original vegetable texture, along with other cells, filled with a beautiful wine-coloured resinous matter, which was exceedingly volatile, and which was first driven off by heat.

Vegetable structure can be seen in some coals, even by the naked eye. Soft pieces, called by miners "mother-coal," not unfrequently show fibrous woody texture. Göppert not only perceived vegetable impressions in the coal of Silesia, but could also distinguish the families of the plants and trees of which it had been formed. In the coal of the mountain limestone of this district, we have found distinct vegetable remains; in the Lemington coal we have seen Lepidodendrons, and in that at Alnwick Moor, and at Shilbottle, Stigmaria ficoides with rootlets attached, and spreading through the coal. A simple experiment will give additional ocular proof; for if any of our coals be well burnt, and the residue or ashes examined under a microscope, tubes and tissue belonging to vegetables will be observed. Nor is it difficult to account for the presence of these organized fragments; because silica, or some other incombustible mineral, when in a state of solution, has replaced portions of the original vegetable substance, assumed its structure, and while the carbonaceous elements have been dissipated, these indestructible portions have passed unchanged through the fire.

The evidence is conclusive: Coal is a transformed vegetable. The mineral fuel which is placed in the depths of the earth, which has a thickness of several hundred feet, which extends over an area of many thousand miles, and which ministers largely to domestic comfort, and, by its application to manufactures and locomotion, has vastly increased the productive power of our country, and even given new impulses to the progress of civilization, was, ages ago, an immense assemblage of living plants flourishing on the surface of the earth. Marvellous as is the change, it is paralleled, and even surpassed, by others of a kindred nature, since the diamond, which lends a lustre to female beauty, and is the most valuable and brilliant of gems, is also a transformed vegetable having the same origin, and being formed of the same elements as coal and anthracite.

The Plants, or the original materials of which Coal was formed.

The question now comes for consideration, what were the plants of which coal was formed? and what affinity or analogy do they bear to existing vegetation? The inquiry is not without interest, since it may lead to new facts in the history of vegetation, and throw light over the conditions of the era when the Carboniferous series was

deposited. As fossil plants are generally fragmentary and imperfect, and but rarely present the essential organs of fructification, the inquiry is difficult; it has nevertheless been prosecuted with ability and zeal by eminent naturalists on the continent and in our own country; and, though several problems in Fossil Botany yet remain unsolved, the structure and characters of many carboniferous plants have been successfully determined.

Fossil plants occur chiefly in the shales and sandstones associated with coal; not unfrequently they are found in nodules of ironstone, and occasionally in limestone, as at Howick, North Sunderland, and Scremerston. They consist of the stems and branches of trees, of roots, fronds and leaves, and rarely of fruit. Most commonly they are impressions or casts, the original vegetable matter being replaced by sand or mud. In shales, the stems are flattened, but in sandstone they are frequently round, and retain their natural shape; usually they are broken and prostrate, but in some cases they stand perpendicular to the line of stratification, apparently rooted on the spot where they grew. Coarse mud or sand has not, however, in all instances replaced the vegetable matter; for minerals, such as silica and carbonate of lime, have, in a state of solution, penetrated the tissues of the plant and preserved its structure; and, when in this condition, the fossil admits of as exact an examination as a modern vegetable, and contains within itself the evidence by which its nature and relationship can be determined. But in order to understand the nature of this evidence, and also the references which may be made to vegetable types, it will be of use briefly to explain in what manner the existing Flora can be arranged in great divisions or classes, according to their distinctive internal structures. To one or other of the four following classes all existing plants may be referred:—

1. Thallogens (from θάλλος, a leaf, and γεννάειν, to produce), which are composed entirely of cellular tissue, and include Lichens, Fungi or Mushrooms, and Algæ or Sea-weeds.
2. Acrogens (ἄκρος, summit), which have centres either hollow, or composed of cellular tissue; vascular or woody bundles are produced simultaneously near the circumference, and the stems increase upward, and not in breadth; they include Mosses, Lycopodiums or Club-Mosses, and Ferns.
3. Endogens (ἔνδον, within), which have definite bundles of vascular tissue scattered throughout cellular tissue; the additions in the first instance are towards the centre; they possess no true bark, and no medullary sheath or rays; Palm Trees and Grasses are included in this class.
4. Exogens (ἔξω, outward), which possess a distinct pith and bark, with medullary rays connecting the two; they increase, year after year, by regular additions of vascular circles between the external bark and the woody zone previously formed; Oaks, Beeches, all our forest trees, and most British plants belong to this class.

Let us show the application of these structural peculiarities to a

fossil plant. Mr. Witham, to whom Fossil Botany has been greatly indebted, found in the coal-measures at Ushaw, in Durham, a fragment of a fossil; it had no pretensions to beauty, and would have been cast aside by an incompetent observer; yet this unpromising-looking fragment could, by the interrogations of Science, tell its own history, and give us a glimpse of the state of the world at a far-distant era; for, when a transverse section was placed under a microscope, its exogenous structure was evinced; no concentric circles were discovered, but medullary rays crossed elongated cellules which were similar to those in Coniferæ or Cone-bearing trees; a longitudinal section more distinctly revealed the affinity of the fossil, for the walls of the cells were covered with roundish or oval areolæ or glands. Now these are found on the cells of no other plants excepting the Coniferæ and Zamiæ; but the combined evidence of both sections proved that the fossil was a fragment of a Cone-bearing Tree similar to the Pinus Strobus, or Weymouth Pine, a native of Canada and the more northern districts of North America. These relics of a former vegetation were noble forest trees. At Granton, near Edinburgh, and in the Newcastle coal-field they have been found 70 feet long; but while some of them have their type in the northern hemisphere, others resemble those which chiefly flourish in the southern; their analogue is to be seen in the Araucarias—in the Altingia excelsa, or Norfolk Pine, which, growing to the height of 200 feet, and clothed with an abundant foliage, gives magnificence, beauty, and picturesqueness to the scenery of southern lands.

About 300 species of plants from the Carboniferous formation of Great Britain have been described; but, with the exception of Coniferæ and Ferns, few of them have a close affinity to existing families of plants. Indeed, on going down a coal-pit a few hundred feet deep, we meet with an entombed Flora, as different from that growing on the surface, as that is which is seen in another hemisphere. Not only are the floral forms strange, they are even frequently beautiful in their rocky sepulchres. One of the finest passages in Dr. Buckland's Bridgewater Treatise is a description of what he saw in the coal-mines of Bohemia. "The most delicate imitations of living foliage upon the painted ceilings of Italian palaces," he says, "bear no comparison with the beauteous profusion of extinct vegetable forms, with which the galleries of these instructive coal-mines are overhung. The roof is covered as with a canopy of gorgeous tapestry enriched with festoons of most graceful foliage, flung in wild irregular profusion, over every portion of its surface. The effect is heightened by the contrast of the coal-black colour of these vegetables with the light groundwork of the rock to which they are attached. The spectator feels himself transported, as if by enchantment, into forests of another world; he beholds Trees, of forms and characters unknown upon the surface of the earth, presented to his senses, almost in the beauty and vigour of primæval life; their scaly stems and bending branches, with their delicate apparatus of foliage, are all spread out before him, little impaired by the lapse of countless ages, and bearing faithful records of extinct systems of vegetation, which began and terminated in times of which these relics are the infallible historians."

We shall now describe the forms of evanished vegetable life, which flourished in this district during the Mountain Limestone era, and whose remains constitute our coal-beds. The species we have been able to determine are not numerous; but most of them belong to genera characteristic of the Carboniferous formation. We give figures of a few forms which have not previously been described.

Exogenous Plants.

Coniferæ.

At one period it was believed, that the lowest orders of plants, only, lived during the Carboniferous era. Mr. Witham demonstrated the fallacy of this hasty, negative conclusion; and it is interesting to notice, that the first distinct evidence was obtained by him from Berwickshire. Fossils were found exhibiting coniferous structure at Lennel Braes, Allanbank, and Tweed Mill, where the strata are members of the Mountain Limestone. At Lennel Braes, which is a little more than two miles below Coldstream, on the Tweed, they occur in great abundance in a bed of shale along with irregular coaly matter; and also at Allanbank Mill near the junction of the Whiteadder and Blackadder, along with Sigillariæ, Lepidodendra, and Fern fronds*.

Genus Pitus (Witham).

Only fragments of stems have been found; they were flattened, tapering, and branched; the largest fragment was 4 feet long, having a circumference at one end of 6 feet, and at the other of 4 feet; the bark was converted into coal; the exterior surface was grooved longitudinally. Portions retained structure, and showed a medullary axis or pith of large size, surrounded by woody tissue consisting of elongated cellules, and having very indistinct indications of concentric circles; medullary rays proceeded from the pith to the bark; and on the walls of the woody tissue were two or three series of roundish areolæ or disks, such as are seen in recent Coniferæ. Two species have been determined: they are distinguished from each other by the breadth of the medullary rays.

Pitus antiqua (Witham). Ref. Witham's Fossil Vegetables, t. 3, t. 4. f. 1–7, t. 8. f. 1–3.

Medullary rays of four or five series of cellules.

Localities. Lennel Braes and Tweed Mill.

Pitus primæva (Witham). Ref. Witham's Fossil Vegetables, t. 8. f. 4–6, t. 16. f. 2.

Medullary rays of ten to fifteen series of cellules.

Locality. Tweed Mill.

* Witham on Fossil Vegetables. We have recently examined the strata at Lennel Braes and Tweed Mill, and found the Coniferous trees in masses of limestone associated with marine fossils—Spirorbis Carbonarius and undetermined species of Orthoceras Pleurotomaria, and Avicula, proving that these plants had been carried into the sea, and there fossilized.

Genus Araucarites (Presl and Goep.).

Syn. Pinites, Lindley.

This genus is distinguishable from Pitus, with which it agrees in other respects, by the areolæ, or glands on the walls of the woody tissue being hexagonal; it is therefore allied more nearly to the Araucaria of Norfolk Island than to the Pines of northern regions. One species has been found in the coal of the Northumberland Mountain Limestone.

Araucarites carbonaceus (With. sp.). Ref. Witham's Fossil Vegetables, t. 11. f. 6–9.

Locality. Netherwitton.

Plants allied both to Exogens and Acrogens.

Genus Stigmaria.

Stigmariæ are more abundant in coal-fields than any other plant; they occur in every part of the Carboniferous formation, from the uppermost to the lowest beds; we have seen them even at Cockburnspath, where the Carboniferous sandstones and the Old Red Sandstone conformably blend into each other. They are found in fragments varying in diameter from less than an inch to upwards of a foot, and occasionally extending to the length of 20 and 30 feet. Their surface is marked with roundish scars, arranged somewhat spirally, from which long cylindrical rootlets proceeded. Except in rare cases, these rootlets are flattened by pressure, and appear like long veinless leaves with a midrib. Plate XII. very correctly represents their form in this flattened state, and the manner in which they spread through an argillaceous rock. The scars of the stem are sometimes found filled with circular bodies, the bases of the rootlets; and we have specimens from the Budle shale, where these bases project above the surface, and have at their apices circular hollows surrounded by a rim, and pretty distinctly indicating that the rootlets articulated with the main stem. The internal structure of Stigmariæ has been well determined by Lindley and Hutton, Morris and Hooker. It consists of a central column of cellular tissue, surrounded by a vascular or woody cylinder broken into wedges, and this is enclosed in a broad zone of cellular tissue; medullary rays pass through the woody cylinder, from the inner column to the outer zone. The rootlets have been found to consist of delicate cellular tissue, traversed by a dark line, showing the extension of the vascular tissue from the main stem.

Until recently, Stigmariæ were regarded as independent plants; but Professor King, in an able memoir published in Jameson's Journal in the years 1843 and 1844, proved that they are the roots of another singular plant, the Sigillaria, which also is abundant in coal-fields; and his conclusion has been confirmed by the observations of

Mr. Binney and Mr. Richard Brown, who have found the Stigmaria roots united with Sigillaria stems. As, however, this root is most commonly found detached, we place it under its ordinary name in our Fossil Flora.

STIGMARIA FICOIDES (Brong.). Ref. Lindley and Hutton's Fossil Flora, t. 31–36.

Localities. Frequent in the district in sandstones and shales.

Plate XII. Compressed rootlets of Stigmaria ficoides in a light-coloured, argillaceous, and slightly calcareous rock, from the banks of the Whitcadder opposite Hutton Mill.

Genus SIGILLARIA (Brong.).

Sigillariæ were large trees with simple or branching stems, which are fluted longitudinally, and marked between the furrows by regular rows of scars, the remains of the leaf-insertions. So large were they, that fragments have been found 3 feet in diameter and 60 feet long. Their fruit is not known, but leaves of two species have been found,—those of Sigillaria lepidodendrifolia by Brongniart, and of Sigillaria Rhytidolepis by Corda; those of the latter are linear, very long, and narrow, being from 1 to 2 feet long, and only $\frac{1}{7}$th of an inch in breadth.

To Brongniart we are indebted for an elaborate and skilful exposition of the structure of Sigillaria. It is similar to that of Stigmaria, but more complicated; a large cellular column is surrounded by a narrow vascular or woody cylinder, broken into wedges and crossed by medullary rays. A longitudinal section of the woody tissue, made both parallel and at right angles to the medullary rays, shows the walls of the vessels to be marked with parallel transverse bars; these are enclosed in a broad zone of cellular tissue; but, in addition, a distinct set of vascular bundles is placed opposite the small end of the woody wedges, representing the medullary sheath of exogenous trees, and from these, other bundles of striated vessels pass into the leaves. This structure differs widely from that of any living plant; it is, however, essentially acrogenous; and the nearest analogue to these majestic trees of other times is the Lycopod or lowly creeping Club-Moss; yet the radial arrangement of the woody tissue, and the presence of medullary rays and a sheath, bring them into a distant relationship to exogenous vegetation. Brongniart considers them allied both to the Lycopod and to the Cycas; they form, therefore, a connecting link between Orders, which stand far apart in existing nature.

Composed chiefly of cellular tissue, Sigillariæ were extremely succulent; they grew in swamps and marshes, their long and numerous Stigmaria roots and rootlets forming an entangled mass, and permeating the mud in all directions, in a manner similar to that of the living water-lily in shallow lakes and ponds. The roots sometimes exhibited a crucial arrangement, uniting into four main portions,

separated from each other by deep channels and forming a dome, from the summit of which, the furrowed and scarred stem, clothed in the upper parts with a long, narrow and pendent foliage, rose to the height of nearly 100 feet.

In our district, remains of the stems of Sigillariæ are frequent in the sandstones connected with the coal; they are, however, generally decorticated, and rarely exhibit the form of the scars, by which the particular species may be determined. But, though the remains are numerous, the species have been few, for there is a great similarity in those which have been observed in all parts of the district. One species we have been able distinctly to determine.

Sigillaria organa (Sternb.). Ref. Sternb. t. 13. f. 1.

Localities. In sandstone at Alnwick Moor, Howick, Lennel Braes &c.

Genus Anabathra (Witham).

At Allanbank in Berwickshire, large masses of the remains of this genus were found by Mr. Witham, along with Sigillariæ and Lepidodendrons; they were stems, roundish, tapering, and slightly striated longitudinally. Portions retained structure, and exhibited a large pith encircled by an unbroken medullary sheath, and a broad, woody zone, without any indications of concentric circles, but with a very few narrow medullary rays; the walls of the tubes, both of the sheath and zone, were marked with fine transverse lines or bars, and hence the name Anabathra, which signifies the 'steps of a ladder.' This plant is nearly related to Sigillaria. One species only is known.

Anabathra pulcherrima (Witham). Ref. Fossil Veg. t. 8. f. 7–12, t. 10. f. 7.

Locality. Allanbank.

Genus Lepidodendron (Sternb.).

Plants which, from their scale-like leaves, have been called Lepidodendrons, occur pretty frequently in the sandstones and shales of Shilbottle and Alnwick Moor, in the cliffs at Howick and Sunderland, and on the banks of the Whiteadder and Langton Burn. The stem, branches, leaves and fruit of this genus have been found; occasionally the stems have been seen above 4 feet in diameter and 40 feet long. The stems bifurcate or fork, and are covered over with areolæ or angular spaces, generally lozenge-shaped, and marked with a minute scar, to which simple linear or lanceolate leaves were attached. The fruit was developed at the extremity of the branches in cones, formed of horizontal scales around a perpendicular axis, each scale containing a vessel filled with spores. A specimen found by the Rev. C. Vernon Harcourt, in the mountain limestone series at Hesley Heath near Rothbury, displayed the internal structure

of Lepidodendron; it consisted principally of soft cellular tissue; between a broadish cellular column and a double cellular zone was interposed a narrow vascular cylinder, and on the exterior was a thin cuticle or bark. The structure generally both of the stem and fruit, and the mode of branching bring the Lepidodendrons into near affinity to the Lycopodium, but the structure of the vascular cylinder and the appearance of fistular passages in the bark indicate at least a distant relationship to Coniferæ. They were succulent, yet lofty trees, resembling in magnitude and appearance those Araucarias which are clothed with an imbricated foliage.

The determination of the species is difficult and sometimes impossible, because the markings on the stem may be different in the young state from that in the old, and because, moreover, the fossil may present an impression or cast either of the outer or of the inner surface of the bark. Further inquiry will probably reduce the number of species already described. The following have been found in our district:—

Lepidodendron Harcourtii (With.). Ref. Trans. Nat. Hist. Soc. of Northd. vol. ii. pl. 5, 6.

Localities. Hesley Heath near Rothbury, Alnwick Moor.

Lepidodendron obovatum (Sternb.). Ref. Sternb. t. 6. f. 1.

Locality. Near Spittal, in sandstone, on the authority of Mr. Winch.

Lepidodendron aculeatum (Sternb.). Ref. Sternb. t. 6. f. 1.

Localities. Howick and North Sunderland, in sandstone and shale. This species has not, so far as we know, been found in the upper coal-measures of England; it seems to belong more particularly to the Mountain Limestone series.

Lepidodendron Sternbergii (Brong.). Ref. Foss. Fl. t. 4.

Locality. Alnwick Moor and Howick, in sandstone.

Lepidodendron Selaginoides (Lindl.). Ref. Foss. Fl. t. 12.

Locality. Barmoor, in a carbonaceous shale above the coal. The specimen is a portion of a large stem; the form of the scars is narrow, and agrees pretty nearly with Lindley and Hutton's figure.

Lepidodendron gracile (Brong.). Ref. Brong. Hist. t. 15.

Locality. Alnwick Moor, in shale above the coal, along with Avicula Verneuilii (M'Coy) and other marine shells. The specimen is dichotomose, and possesses a central column, passing through the stem and up the branches, retaining structure.

Lepidodendron anglicum (Sternb.). Ref. Sternb. t. 29. f. 3.

Locality. Howick, in sandstone.

LEPIDODENDRON FUSIFORME (Tate). Plate XIII. fig. 3.

Cicatrices distant, spirally arranged, fusiform, acuminate at both ends; cicatrule central, elliptical; the spaces between the cicatrices finely striated longitudinally.

Localities. Alnwick Moor and banks of the Reed Water. The specimen figured is in a fine-grained sandstone from the latter locality. This species resembles the L. rimosum of Sternberg; but it differs from it in the form of the cicatrule, the striation of the surface, and the distance of the cicatrices from each other. Brongniart considers Sternberg's species as a decorticated Lepidodendron; but our species is more like an impression of an external surface.

LEPIDODENDRON OBLONGUM (Tate). Plate XIII. fig. 2.

Cicatrices spirally arranged, oblong, slightly tapering at each end.

Localities. Alnwick Moor, Howick, Shilbottle. The specimens of this species are all decorticated, and therefore the characters are imperfect; but as it not unfrequently occurs in the mountain limestone series, and cannot be referred to any published, we have deemed it useful to present a figure.

Genus ULODENDRON (Lindl.).

The Ulodendron was the most singular plant which flourished during the Carboniferous era. Specimens obtained from Alnwick Moor enable us to add something to the knowledge of its form. Its internal structure is the same as that of Lepidodendron; it possessed similar leaves and rhomboidal areolæ on the stem and branches. A specimen in Alnwick Castle shows that its mode of branching is dichotomose like the Lepidodendron; but in addition, there are rows of round or oval scars on opposite sides of the stem arranged vertically; and these scars continue upward on the same plane along the branches, while other rows commencing at the point of forking run up on the opposite side of the branches; the scars and the branches are all in the same plane. These scars appear to have been points of attachment of masses of inflorescence, which had consisted of sessile cones formed of imbricated scales, in a manner similar to a fir cone. The chief difference between Lepidodendron and Ulodendron would therefore be, that the cones, bearing sporules or seed, were placed at the end of branches on the former, but their position on the latter was in linear rows on the stem and branches.

ULODENDRON ORNATISSIMUM (Sternberg's species). Ref. Brong. Lepidodendron ornatissimum, t. 18. Buckland's Bridgewater Treatise, Ulodendron Allani, t. 56. f. 3.

Locality. Alnwick Moor, in sandstone.

The fruit-scars of this species are large and beautifully sculptured; we have them 11 inches in circumference; the distance from each other varies—in some specimens they are in contact, in others 1 inch

apart; the areolæ also vary in form; when well preserved, they are rhomboidal, contiguous, and spirally arranged. Buckland's U. Allani and Brongniart's L. ornatissimus are representations of different portions of the same species.

Genus Knorria (Sternb.).

The fragments found of these plants are tree-like stems, covered with prominences, which are the remains of thick, short, sessile leaves, spirally disposed. Their mode of branching is dichotomose, like that of Lepidodendron, to which they appear nearly related. Sternberg considers the leaves to have been cylindrical, and similar to those of succulent plants.

Knorria imbricata (Sternb.). Ref. Sternb. t. 27.

The leaf remains of this rare fossil are oblong, cylindrical, either truncate or subacute, imbricated and adpressed.

Localities. Alnwick Moor and Shilbottle, in sandstone.

Knorria taxina (Lindl.). Ref. Foss. Fl. t. 95.

Locality. Budle, in shale.

Plants allied to Exogens, Endogens, and Acrogens.

Genus Calamites (Schlotheim).

In most coal-fields, reed-like plants, hence called Calamites, are abundant, and they are not unfrequent in our district. They are usually found in short fragments which are jointed and furrowed. Branches, also jointed and furrowed, proceeded from the nodes, gradually thickening as they lengthened, and afterwards tapering off. They seem to have possessed needle-shaped leaves, arranged in whorls around the stem at the joints. The Equisetum or common Horsetail presents a similar appearance to these singular plants. The Calamites, however, were of much greater magnitude; we have seen specimens from Russia above one foot in diameter.

Mr. Dawes has recently thrown some light on the structure of the Calamite, which appears to consist of a large central column of tissue surrounded by a cylinder of woody structure *. The fossil as ordinarily found is, according to Mr. Dawes, a mineral cast of the inside of this cylinder, which is composed of two distinct tissues, one cellular and the other pseudo-vascular. These are arranged in alternating vertical plates, and interrupted at intervals, corresponding to the joints, by horizontal plates of tissue or Phragmata; concentric rings were observed, indicating exogenous growth; and network of quadrangular tissue similar to that of Coniferæ was seen, along with other rectangular cells, arranged in perpendicular series, such as are more commonly met with in Endogens. The Calamite, therefore,

* Proceedings of the Geological Society, vol. vii. p. 196.

combines an extraordinary assemblage of structural peculiarities, and forms a link connecting three of the great divisions of the vegetable kingdom. Being, however, principally composed of cellular tissue, like most of the other plants of the era, it was succulent and fitted to flourish in damp and swampy grounds.

Calamites Suckowii (Brong.). Ref. Brong. Hist. t. 15. f. 5.

Locality. Alnwick Moor, in sandstone.

Calamites cannæformis (Schloth.). Ref. Brong. Hist. t. 21.

Localities. Alnwick Moor and Dunse, in sandstone.

Calamites distans? (Sternb.).

Specimens occur in the sandstone at Alnwick Moor which probably belong to this species; though with a diameter of only 6 lines and a length of $3\frac{1}{4}$ inches, there is no appearance of articulation.

Calamites tricarinatus (Tate).

Articulations distant from $3\frac{1}{2}$ to $4\frac{1}{2}$ inches apart; in the lower part of the stem the ribs are irregular, prominent and flexuous, and the sulcations broad, irregular and rugose; in the upper part the ribs are parallel, $1\frac{1}{2}$ line broad, and each rib is tricarinated, one carina being central and the other two lateral.

This species has no near resemblance to any other. The characters we have taken from two specimens obtained from the same locality.

Locality. Shilbottle, in sandstone.

Endogenous Plants.

Genus Poacites (Brong.).

This genus includes Endogenous leaves, the veins of which are parallel, simple, of equal thickness, and not connected by transverse bars.

Poacites nervosa (Tate). Plate XIII. fig. 5.

A leaf linear, acuminate, veins numerous and very fine; length of the specimen $4\frac{1}{2}$ inches, and greatest breadth $1\frac{1}{2}$ line.

This leaf does not differ greatly from that of an ordinary grass, such as Alopecurus or Anthoxanthum, the foxtail and vernal grasses.

Locality. Budle, in shale.

Genus Crinites (Tate).

This genus is proposed for those leaves which have a midrib and parallel veins, unconnected by transverse bars.

Crinites lanceolata (Tate). Plate XIII. fig. 6.

A fragment of a leaf which had been several inches long; it is lanceolate with a thick prominent midrib and numerous veins,

parallel with the margins. This is the remains of some succulent plant; it has somewhat the aspect of a Crinum leaf. The fragment figured is interesting, as, attached to it, are four marine Annelids—the Spirorbis carbonarius, in different stages of growth. Although we have obtained hundreds of marine shells from the Budle shale, we have never seen the little Annelid there, excepting upon these leaves. In other places this marine animal has been found amid the remains of the vegetation of the Carboniferous era; we have met with it at Tweed Mill along with Coniferous stems; it appears upon Fern fronds at Burdie House; and Mr. Binney has noticed it in the Lancashire Carboniferous beds.

Acrogenous Plants.

Filices or Ferns.

We, for the most part, have been wandering among strange forms, having no near resemblance to existing vegetation; we come now to relics which associate themselves with familiar friends, and which inexperienced observers might mistake for entombed specimens of some of our commonest plants. Ferns, distinctly recognisable, are found in vast profusion in most coal-fields. So numerous are they in species, that of the 300 Carboniferous plants in Great Britain, 140 are Ferns; and so abundant in the aggregate, that many shale beds are crowded with their remains. When living they are graceful and attractive objects, and even when raised from their sepulchres they are still beautiful, their elegant forms being well displayed between layers of shale, where they are spread out with as much exactness as recent Ferns in a herbarium.

Fossil Ferns usually occur in detached fronds and leaflets; and though the veins of the leaflets are frequently preserved, it is rare indeed that any remains of the fructification are discovered. In the absence of fruit, the form of the frond and of other parts of the Fern, and the mode in which the veins spread through the leaflets, are taken as characters to discriminate the various genera. A few short round or compressed fossils, with large oblong scars, have been found in Carboniferous beds. There is little doubt of these being the remains of Tree Ferns such as now grow in moist climates, chiefly on the borders of the tropics. Professor King informs us, that he has obtained stems of this character from the coal-measures at Jarrow and Felling, associated with, though not attached to, Fern fronds; these fronds, therefore, not improbably were the foliage of the arborescent Ferns.

But while Ferns are abundant in coal-fields generally, exception must be made for the Mountain Limestone formation of our district. In the south-eastern part of Northumberland they are found in great numbers; they extend to Togston, a little south of the Coquet, where fine specimens are in the shales; but in the beds north of the Coquet they are exceedingly rare, so rare that we have found them only in

one locality at Budle, in a red argillaceous shale, associated with other plants and marine shells, among which is Posidonia tuberculata. This interesting deposit, which is about 30 feet thick, contains in the lower part many marine remains; but as we ascend upward, a fragment of a land plant, which had been floated into this ancient estuary, here and there appears; and in the uppermost part, the marine fossils are almost entirely gone, while considerable numbers of land plants are spread out between the layers of shale.

Genus Sphenopteris (Brongn.).

Frond bi–tripinnate; pinnules contracted at the base, not adherent to the rachis, lobed, the lower larger and diverging; veins bipinnate, somewhat radiating from the base.

Sphenopteris Johnstoniana (Tate). Figs. 1 & 2.

Frond bipinnate; pinnæ linear-lanceolate; rachis of the pinnæ winged and longitudinally striated; pinnules alternate, cuneate or palmate, the lower deeply cut into five or six bifid or trifid segments, the upper into three or four bifid segments; veins bipinnate, each lobe having one central vein.

Fig. 1.

Fig. 1. Pinna of Sphenopteris Johnstoniana.

Fig. 1. *a*. A detached pinnule more divided from the lower part of a pinna.

The remains of this delicate Fern are very beautiful; they appear like the work of a tasteful artist who had impressed their elegant forms in burnished copper on a deep red metallic ground. It resembles a living Hymenophyllum; but a nearer analogue is a species of Davallia from the West Indies which we have seen in the collection of Mr. Morris. Several of the species of Sphenopteris, with narrow segments, may hereafter be united, as the slight differences among them may have been caused by difference of situation and age. Our species is nearest to S. elegans of Brongn.; but the rachis is more winged, the pinnæ more slender, and the termination of the lobes less obtuse than in that species. We find also, from specimens recently obtained, that one central vein passes into each lobe or ultimate segment. We have named it after Dr. Johnston, as a mark of respect to a distinguished naturalist, whose writings and labours have added much to our knowledge of the natural history of our country.

Locality. Budle, in shale.

Fig. 2.

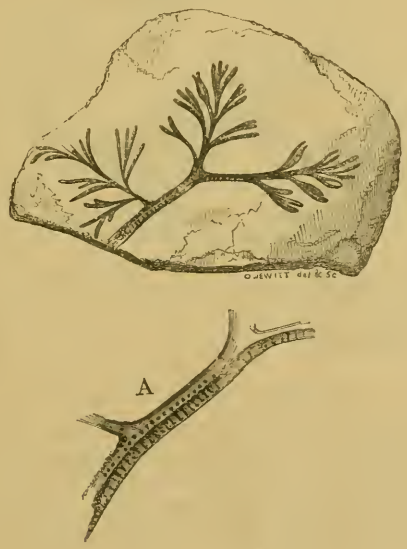


Fig. 2. A fragment of a pinna, the pinnules somewhat distorted, the rachis having on each side of a central ridge a series of punctations.

Fig. 2. A. Magnified view of the rachis. We have another specimen showing the same kind of punctations; they may have been caused by the shrinking of the tissues, when the plant was in course of fossilization.

x 2

Sphenopteris flabellata (Tate). Fig. 3.

Frond bipinnate?; pinnule horizontal, petiolate, flabellate, deeply cut into three radiating segments; segments cut more or less deeply into linear, obtuse lobes, the lowermost having seven, the middle four, and the uppermost eight lobes; veins radiating, one broad vein passing into each lobe.

This species belongs, we have no doubt, to the group of Sphenopteridæ with linear and uninerved lobes, which ought to be separated from the others under a distinct genus: although the characters of our species have been taken from a single pinnule attached to the rachis, we find them quite distinct from those of any described species.

Fig. 3.

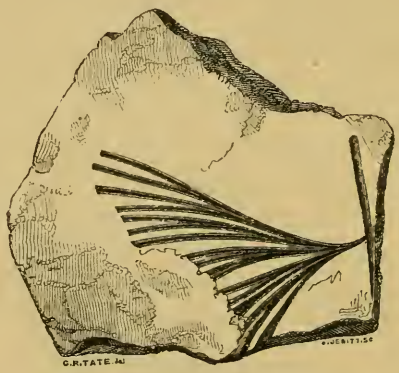


Fig. 3. Sphenopteris flabellata.

Locality. Budle, in shale.

Genus Filicites (Brongn.).

Brongniart instituted this genus to include fronds, or portions of fronds, which could not be referred to any other genus. Stems of Tree Ferns with oval scars have been placed under Caulopteris; these have not yet been observed in our district, but two stems, without leaves and unmarked by scars, are too remarkable to be passed over, and, as they seem portions of Ferns, we record them provisionally under the genus Filicites.

Filicites striata (Tate). Plate XIII. fig. 1.

This is a portion of a stem 4 inches long and 1 inch broad; a broken branch remains, which proceeds horizontally from the stem; the stem is striated longitudinally, the striæ being parallel and nearly equal, and curving into the branch, chiefly from that part of the stem which is below it. The cuticle must have been very thin,

as it overlies two marine shells (Chonetes Hardrensis and Bellerophon Urii) which are distinctly recognisable beneath it.

This appears a portion of a large herbaceous branching Fern. Polypodium pruinatum branches in a similar manner.

Locality. Budle, in shale.

Filicites intercostata (Tate). Plate XIII. figs. 4 & 4 *a*.

This is a portion of a stem 4½ inches long, and 3 lines broad; it is ribbed longitudinally; the principal ribs are flat and parallel, and in every intervening sulcation is a smaller rib; ten smaller alternate with ten larger ribs in the breadth of the stem.

This has much the appearance of a Calamite, but although the fragment is long in proportion to its breadth, there are no articulations. It is more probably the remains of a herbaceous Fern; for some of the fossil Pecopteridæ have stems which are regularly and broadly ribbed.

Locality. Budle, in shale.

Plants of doubtful affinity.

Genus Bechera (Sternb.).

A herbaceous stalk, jointed, tumid at the articulations, furrowed; leaves whorled, narrow and acute.

Bechera simplex (Tate). Plate XIII. fig. 9.

Stalk simple, with unequal furrows; leaves linear-lanceolate, acuminate, proceeding in pairs from the tumid joints, usually two pairs from each joint.

This species is interesting, as Becheræ have rarely been seen in the Mountain Limestone Formation, and as being the only one observed in our district. The relationship of these plants is very doubtful. Sternberg refers them to Naiades, a small order of aquatic endogenous plants.

Locality. Budle, in shale.

Coniferites? verticillatus (Tate). Plate XIII. figs. 8 & 8 *a*.

This is a portion of a stem one inch in length and one line in breadth; it is longitudinally striated, but not jointed, and on each rib, at short intervals, is a prominent, roundish leaf-scar, the scars being in a line with each other, and forming regular rows across the stem.

Some additional illustration is derived from a specimen from the Glasgow shales, in the Museum of the Geological Society; it is similarly striated, but the stem is larger, the leaf-scars are on each alternate rib, and it is terminated with a cone. In appearance it is like the fertile frond of an Equisetum. Both specimens, however, are different from an Equisetum, as they have neither joints nor sheaths, and, judging from a cursory examination of the Glasgow specimen, we apprehend that the terminal cone may prove more

related to Coniferæ than to Equiseta. A young branch of Juniperus communis has striations and verticillate leaves, not much different from what these fossil remains would possess. Their exact relationship we do not attempt to determine; but in order to include our species in the Fossil Flora of the district, we place it provisionally under the very general name Coniferites.

Plate XIII. fig. 8 is a very carefully executed representation of our specimen, the natural size; and fig. 8 *a*. is the same, considerably magnified, showing distinctly the ribs and arrangement of the leaf-scars.

Locality. Sea-coast below Lammerton, in a carbonaceous shale.

Genus Carpolithes (Brongn.).

This genus was established to include the remains of fossil Fruits whose affinities are doubtful. Unquestionably it is a heterogeneous assemblage, but facts must be collected and recorded before a satisfactory determination of natural affinities can be made; and it is necessary that the observations should be arranged under some general name, for the sake of future reference and study.

Carpolithes ovatus (Tate). Plate XIII. figs. 7 & 7 *a*.

We give figures of two specimens of this remarkable fossil, which seems to have been a bivalve fruit, and of which one valve was more convex than the other; fig. 7 is the interior of the more convex, and fig. 7 *a*, a cast of the other. The fruit is ovate-acuminate; the interior presents a broadish margin, and a central ridge sloping to the margin, pointed at the upper end, and obtuse at the lower, where there is an elongate sinus; sulcations from the sinus curve outward towards the extreme margins.

It is hoped that further inquiry may throw some light on the affinity of this fossil.

Locality. Bamburgh, in a red slaty sandstone along with other obscure vegetable remains.

Such then are the plants, so far as we have been able to distinguish them, which form our Coal-beds and which grew in our district during the Mountain Limestone era. The Flora is, to a large extent, the same as that of the earlier Coal-measures, and includes most of the genera, and some of the species, characteristic of these measures; but the relative number of Ferns is widely different: in our district they are exceedingly scanty, but in the earlier Coal-measures they are most abundant. Though the vegetation of our district was rank, the Flora was not varied; only a few orders of plants flourished; none of the lowest was present—no algæ—no fungi—no lichens—no mosses; nor do any forest trees appear similar to those which now adorn our woods, excepting Coniferæ; but acrogenous plants were then developed in enormous numbers, and on a scale of magnitude which contrasts with their dwarfish proportions in existing vegetation.

The Changes which Coal has undergone, and the Conditions of the Era during which it was deposited.

So great is the difference between a Plant and Coal, that it may naturally be inquired, what causes have operated to transform the green living vegetable into a black stone? We must endeavour to connect the two extremes.

And first the question occurs, was coal derived from plants, transported from a distance, and deposited in lakes and estuaries, as drift-timber is at present carried by the American rivers into the Mexican Gulf and the estuary of the Amazon? or from plants which grew on places where coal-beds now exist? To the drift hypothesis there are strong objections. Humboldt calculates that the carbon produced by the trees of the temperate zone, growing over a certain area, would not, in one hundred years, form a stratum of more than $\frac{7}{12}$ths of an inch in thickness, and yet some coal-beds are 30 feet thick. But, reasoning from the action of causes at present operating, we cannot infer that the drifting process could accumulate the vast quantity of carbonaceous matter required, without intermingling with it more sand and mud than are found in any coal-seam. The extended area of many coal-beds offers a still more serious objection. The Newcastle coal-field itself has an area of 200 square miles; but, even though it were imagined that all this extent had been formed of masses of drifted vegetables, it is, however, in the highest degree improbable that this process could have distributed vegetable matter evenly over an area of 14,000 square miles,—the area of the Pittsburgh coal-seam in North America.

Some few coal-beds, of limited extent, may have been formed of drifted vegetables. There are, however, sufficient grounds for affirming that, wherever a coal-bed is persistent over a considerable area, it has been formed of plants which grew on the spot, and which, in consequence of change of level, were subsequently covered over with detrital depositions out of water. The condition of many delicate fossil plants shows that they have not been brought from any great distance; but more conclusive evidence of our position is afforded by the numerous cases which have been observed, of fossil trees with their roots, standing perpendicular to the slope of the strata, and on the spot where they originally grew. In the Newcastle coal-field, Sigillariæ have been found resting on a small seam of coal, passing through sandstone, and at length truncated, and lost in the high main seam. Railway cuttings have exposed remains *in situ* of ancient Carboniferous forests. At Dixonfold, in Lancashire, five large Sigillariæ were laid bare, all standing vertical to the plane of stratification, and with their roots extending into a soft shale; one of them was 11 feet high and 15½ feet in circumference at the base. Near to Chesterfield, above forty fossil trees were discovered in the same position, standing about 3 feet apart upon a coal-bed, but with no traces of roots, the stems disappearing at the point of contact with the coal, to form which, the root and lower portion of the stems had contributed. The most interesting example in England is that at

Parkfield near Wolverhampton, where, in connection with a deposit not exceeding 12 feet in thickness, are three distinct beds of coal, each exhibiting, on its surface, forests of large upright trees; on the upper surface seventy-three trees were standing within an area of one quarter of an acre. The New World furnishes additional facts. Sir Charles Lyell found in the Coal-measures of Nova Scotia at the South Joggins, erect trees at ten different levels, extending over a space of about fourteen square miles. The trunks, which were abruptly broken at the top, passed through different mineral beds, but were never seen to penetrate a coal-seam, however thin; they terminated downwards either in coal or shale, having grown, either out of decomposed vegetation, or out of a swampy muddy soil. Mr. Brown describes similar instances in the Sydney coal-field of Cape Breton, where the upright trees generally are rooted in the shale or mud beds,—the marshy soil of the Carboniferous era.

The conclusion, which these facts prove, is remarkably confirmed by the peculiar relation which the underclay has to a coal-bed. It was first observed by Mr. Logan, that below every one of the hundred coal-seams in South Wales, there is a bed more or less argillaceous and mixed with sand, usually of a fine texture, and making a good fire-clay. Now every one of these beds is penetrated in all directions by a tangled collection of fossil roots (Stigmaria ficoides), from which numerous rootlets proceed, interlacing with each other. In Britain generally, and in North America, the same relation has been observed. Some few exceptions occur in our own district, but even here interesting instances can readily be found. Beneath a coal at Shilbottle there is a bed of carbonaceous shale, 6 feet thick, almost entirely composed of Stigmariæ with long rootlets attached, and so highly charged is this bed with carbon, that it can be advantageously used to burn lime. Indeed, there seems no doubt that the underclay was the soft, damp, muddy soil on which the Carboniferous Flora grew; the form, and sometimes the structure of the roots remain to reveal to us their nature and history, but the gigantic stems and enormous vegetation which they supported have been transformed into coal.

We must find analogies in existing nature to give force to our exposition; for modern geology, discarding the fanciful conjectures which gave poetic interest, but no philosophical value, to the cosmogonies of a former generation, appeals to the laws now operating to furnish an explanation of the past. Accumulations of peat, so abundant in this district, give us an illustration. This is formed when vegetables moulder in moist situations; in the lower part of a deposit, it consists chiefly of trunks and branches of trees, of reeds and sedges, and in the upper part of the remains of various species of Sphagnum or Moss, which throw out new shoots as the older decay, so that an increase in the height of the deposit is constantly going on, as long as the proper condition of moisture continues. It is found at all levels in this county, from the sea-coast up to the summit of Cheviot, and not unfrequently of considerable depth, as near to Ford, where it is about 20 feet deep. Peat accumulations

extend over great areas in Ireland, where they occupy one-tenth of the surface, with a depth in some cases of 40 feet.

Peat deposits pass under the sea at North Sunderland, Newton, and Howick. At Hartlepool, we found one 6 feet thick, containing many oak-trees covered over with a bed of silt or mud, in which are entombed great numbers of marine shells identical with those now living along the shores of the German Ocean. Within, therefore, a comparatively recent period, there has been a change of level along the Eastern coast; a forest of trees waved their branches where the billows of the ocean now roll, presenting a type, indeed, of the changes which occurred during the Carboniferous era.

The peat deposit at the Black Lough, a few miles west of Alnwick, offers another not uninteresting illustration. It occupies a basin, of which the Lough forms a part, and is, in some places, 12 feet thick; at the bottom are stumps of trees, their tops broken off, but still standing rooted in the sandy soil beneath the peat. If this basin were depressed, and detrital matter, brought by water, deposited, that peat, ages hereafter, would be converted into coal, and would present, on a small scale, analogies to a coal-field.

In countries where vegetation is more rank than in Britain, we have climatal and other conditions more resembling those of the Carboniferous era. An instructive example is furnished by the low grounds bordering the Gulf of Mexico. The delta and alluvial plain of the Mississippi have an area of about 30,000 square miles, being somewhat greater than that of Ireland; the elevation of the delta does not, in any part, exceed 10 feet. According to Sir Charles Lyell, the larger portion of this area consists of swamps, supporting a luxuriant growth of timber, especially cypress trees, interspersed with lakes formed in deserted river bends. The mass of vegetable matter is increasing, for as one generation of cypress trees moulders down, another rises above its remains—each generation, in its course, adding to the vegetable accumulation. At the bottom is an unctuous clay, which is penetrated by the cypress roots, in a manner similar to the Stigmariæ in the underclays of a coal-seam. Portions of these swamps are occasionally covered over by sediment, brought down by the river, which, when swollen, breaks through its banks, and a muddy or sandy roof is formed to the carbonaceous mass, like that which is found in the Coal-measures. Sections indeed show, that within a period comparatively recent, beds of vegetable matter, consisting chiefly of mouldering cypress trees, identical with those now growing in the swamps, are overlaid by strata of clay and sand 80 feet in thickness. A depression of the delta, to the extent of only a little above 10 feet, would bring an area of 14,000 square miles below the level of the sea; the materials of an extensive coal-bed would be covered over; mud, sand, and lime strata would be formed, and marine exuviæ entombed; and the series, after the lapse of ages, would present a counterpart to the Mountain Limestone of Northumberland and Berwickshire. Nor is such a depression unlikely to occur; for changes of level are going on at present, some gradual, as in Scandinavia, and others sudden, as on the coast of Chili.

The complicated phænomena of our district evidence frequent oscillations of level, and repeated changes of land, freshwater, and marine conditions. During the Carboniferous era, this district had its hills and valleys, its rivers and lakes; but there were also extensive, low-lying plains, rank with vegetation, bordering on the sea. These swamps were converted into lakes, and the submerged vegetation was covered with sand and mud, in which were stems and branches of trees; other changes succeeded—the waters gradually became shallower, and at length a new marshy surface appeared, supporting a vegetation as luxuriant as before; after the lapse of ages, the scene is again changed—the vegetable accumulations have sunk—the waters of the ocean have rolled over it, and eventually it is covered with lime and mud beds which are crowded with marine animals, that had lived and died on the spot where they are now entombed.

The Carboniferous deposits have a wide range in both hemispheres, from the arctic regions down to the 33° of north latitude. Over the whole, the same general conditions prevailed, for the same peculiar Flora is found in every portion of it. That Flora was not varied, though extraordinarily luxuriant and enormous in the aggregate. At present there are in Great Britain 1428 species of flowering plants and Ferns, but only 300 species have been found belonging to the Carboniferous era. The different proportion of Ferns is also remarkable; for while nearly one half of the Carboniferous Flora are Ferns, they constitute only about $\frac{1}{35}$th part of the entire existing Flora. Conditions such as are indicated by the Carboniferous Flora are to be met with only in countries, especially in islands, bordering on the tropics; and it may therefore be inferred that the climate of the era was humid and equable, and, if not warm, at least temperate. This conclusion is strengthened by some peculiar characters of the Coniferous fossils found in the valley of the Tweed, for they have few and very slight appearances of concentric rings, which arise from interruptions of growth consequent on changes of temperature.

The scenery of these primæval lands, though not glowing with beauty nor radiant with light, has its charms, and arrests attention by the strangeness and vast proportions of its vegetation. The summits of the hills and slopes of the mountains were adorned by the picturesque forms of the lofty Araucarias and other cone-bearing trees; on the extended swampy plains, dense forests of gigantic Club-mosses flourished, their huge arms flung wildly out, and covered with scaly leaves and terminated with cones; fluted trees stood erect on widely spreading roots, their long narrow leaves forming a series of drooping curves rising from the summit and sides of the stem, and giving to the scene sepulchral solemnity; tall reeds sprung upward, straight as the mast of a vessel, with slender leaves or branches in whorls around the stem. The foliage of the whole was sombre, but somewhat relieved by the brighter green herbaceous Ferns which grew in the shade, and by the graceful Tree Ferns crowned with overarching fronds. No warm-blooded creature then "walked the earth" —no beast roamed through the forest—no bird was there with its gay plumage and sportive song; only a few reptiles crawled in the swamps,

and an insect here and there fluttered on the wing :—yet the thoughtful mind, connecting this scene with the distant Future, feels deeply interested with its aspect and bearings ; for here the Allwise Creator, who adjusts the working of physical laws to the attainment of moral purposes, caused the vegetative powers of nature to put forth their strength, to make provision for the future wants of the intellectual and moral beings who were to people the world.

It now remains for us to attempt to explain the chemical changes which the entombed vegetable mass has undergone in its conversion into coal.

Coal is formed of the same elements as wood, but in different proportions. Leaving out unessential materials, wood is composed of oxygen and hydrogen gases united with about an equal quantity of carbon. Oak, for example, contains 49·432 parts of carbon, 44·499 of oxygen, and 6·069 of hydrogen. Now when wood is immersed in water, a change commences which Liebig calls mouldering, and which is different from the decay which results when air is freely admitted ; oxygen and hydrogen are given off in combination with smaller quantities of carbon, the hydrogen and carbon forming carburetted hydrogen, the fire-damp of miners, and the oxygen and carbon forming carbonic acid, the choke-damp of miners. Trees submerged in bogs are undergoing this change ; and, hence, the swamps bordering the Mississippi are constantly emitting carburetted hydrogen, especially wherever the ground is dug into. Bog-wood, therefore, contains a larger proportion of carbon than wood does, its composition being 57·0 of carbon, 37·5 of oxygen, and 5·9 of hydrogen. When the mouldering process has gone on for a longer period, lignite, such as is found in the tertiary beds, is formed, in which the carbon is further increased, the composition being 58·56 of carbon, 26·85 of oxygen, and 5·95 of hydrogen. As we go backward in time, the disproportion becomes greater, for the rich bituminous Bensham coal belonging to the Newcastle coal-measures, consists of 86·44 of carbon, and only of 5·67 of oxygen and 5·74 of hydrogen. And in anthracite, where the series of changes is nearly completed, the oxygen and hydrogen have all but disappeared, and the result is nearly pure carbon.

Here a practical hint may be given. Some persons, especially those living in the country, expose coals to rain, in the belief that their quality will be thereby improved ; but exposure to moisture hastens on the decay of coal ; it cannot, indeed, be stored in too dry a situation. For steam vessels, dry storage is of great importance, because access of moisture, besides wasting coal, may cause spontaneous combustion, when sulphuret of iron is in combination with the coal.

The mouldering process is still going on in coal-fields, for to this is owing the evolution of carburetted hydrogen, the dreadful enemy to miners ; and yet this destructive element, when rightly treated, ministers to our wants, cooking our food and lighting our villages and towns. Bearing in mind what has already been achieved in con-

trolling and directing the powers of steam and of the electric fluid, it may be hoped that science, impelled onward by humanity, will ultimately be able to bring the carburetted hydrogen from the mine, where it spreads misery and death, and, conducting it into proper receivers, to apply it to economical purposes. Already something has been accomplished. The floor of the Bensham seam in Hebburn Colliery was observed to rise, and gas to escape from another seam 24 feet below; the lower seam was tapped, and the gas is conducted by a pipe to the subterranean stables and used to light them. At Wallsend a large quantity of gas—11,000 hogsheads per minute—is now wasted; it is brought up by a pipe from the depth of 900 feet, is ignited above ground, and may be seen from a distance of several miles burning like a huge bonfire. The Americans, ever ready to make practical applications, "are wiser in their generation." There is an abundant discharge of the same gas, from carbonaceous shales connected with the coal formation, at Franconia, but its escape into the atmosphere is arrested, and it now illuminates the streets and houses of the village.

Pressure, heat, and time have been additional means of completing the conversion of wood into coal.

The vegetable deposits of our district have been compressed by an enormous weight of superincumbent rocks, consisting of the broken-up masses of more ancient mountains, of sand, mud, and lime beds of great thickness, and of lava streams poured out from the depths of the earth.

Experiments made by Professor Göppert, and also by Mr. Oakes, have well shown the influence of heat. The former placed recent plants, representatives of the fossil Flora, for a long time in water, whose temperature was maintained during the day at 212° Fahr. and at from 135° to 167° Fahr. during the night; in two years a product was obtained which could not be distinguished from brown coal. It was not, however, black and shining like ordinary mineral coal, but by the addition of a small quantity of sulphate of iron, the product obtained had this aspect. Anthracite can be formed by artificial means, for Mr. Oakes exposed the bituminous coal of Alfreton to a very gradual heat, and the result was, not coke, but an anthracite, similar to that which is natural. Probably the *lower* beds of the Welsh coal basin are anthracitic, because they are nearer to the sources of central heat than the upper beds, which are bituminous. Basaltic and other igneous dikes and overflows produce a like effect; many instances occur in the Scotch coal-fields; and at Calton Hill, fragments of coal which have been enclosed in the trap rock are changed into anthracite. Our own district also presents facts of the same nature. A large basaltic dike cuts through the Carboniferous beds at Beadnel, and the coal at the point of contact with the dike is charred, forming a kind of coke, but, at a short distance, it is anthracitic, the hydrogen and oxygen of the coal having been driven off along with a smaller amount of carbon, by the heat of the molten rock.

Time is demanded to account for the accumulation of vegetable

matter, and the various changes which have succeeded. Supposing that the vegetable energies of the Carboniferous era were fourfold those of the present, sixty thousand years would be required for the growth of the plants which are now mineralized in the 100 feet of coal in South Wales; and yet this is but a fraction of the time which passed away while the 12,000 feet of accompanying sedimentary strata were deposited, since all of them were of slow and gradual formation. Even this vast period includes only a short section of the records of nature. Taking our era as a stand-point, and looking backward through the Devonian, the Silurian, and the Cambrian systems, with their rocky beds many miles in thickness, and containing myriads of extinct races, and then forward through the Secondary, Tertiary, and recent formations, and marking how frequently entire assemblages of organized creatures disappear and are succeeded by others widely different, the mind labours in vain to sum up the long series of ages which pass before it in succession. But this survey, while teaching us to cultivate a reverential spirit, gives elevation to our ideas of that Infinite Being, to whom "a thousand years are as one day," and who, throughout all past time, has maintained order and harmony in the universe.

Viewing, moreover, the history of coal, not only in connexion with physical laws, but also with moral beings, we may perceive a relation of means to an important end. The rank vegetation of a far-distant era, the changes it has undergone, and its position in the bowels of the earth where it can be reached by human skill, have a direct bearing on the comforts of man and on social progress. From the dark mine, therefore, indubitable evidence comes forth of the existence and power of God, and from thence may be heard a testimony to His benevolence and forethought, in storing up for the use of man a vast magazine of fossil fuel.

"My heart is awed within me, when I think
Of the great miracle that still goes on
In silence round me—the perpetual work
Of THY creation, finished, yet renewed
For ever."—BRYANT.

SYSTEMATIC INDEX.

In this Index I have arranged our Plants after the method followed by Fries, because the Orders and Genera do not follow the same sequence they do in the "British Flora," and in the "Manual of British Botany,"—works which are, probably, in the hands of every student of our indigenous Botany.

DICOTYLEDONEÆ.

Series COROLLIFLORÆ.—Class SEMINIFLORÆ.

SYNANTHEREÆ.—A. **Corymbiferæ.** *a. Senecionideæ.* Bidens cernua: tripartita. Chrysanthemum segetum: leucanthemum*. Pyrethrum parthenium. Matricaria inodora, et *β.* salina. Anthemis arvensis: nobilis. Achillæa ptarmica: millefolium†. Tanacetum vulgare. Artemisia absinthium: vulgaris: maritima. Senecio aquaticus: jacobæa: crucæfolius: viscosus: silvaticus: vulgaris. Gnaphalium uliginosum: rectum. Antennaria dioica. Filago germanica: minima. —*β. Asteraceæ.* Pulicaria dysenterica. Bellis perennis. Aster tripolium. Erigeron acris. Solidago virgaurea.—*γ. Eupatoriaceæ.* Eupatorium cannabinum. Petasites vulgaris. Tussilago farfara.—B. **Cynarocephalæ.** Centaurea scabiosa: nigra: cyanus. Carlina vulgaris. Onopordum acanthium. Carduus nutans: acanthoides: tenuiflorus. Cnicus lanceolatus: palustris: arvensis: heterophyllus. Silybum marianum. Arctium lappa: bardanua.—C. **Cichoriaceæ.**

---

* I have already noticed the abundance of this plant in the pasture-fields about the limeworks of Lowick and Bowsden; but to-day (June 27) I was struck with the partiality of its distribution. While the grounds surrounding some of them were absolutely white with the large flowers that waved before the gentle wind, the very similar grounds about others had not a single plant. This was the case especially with the works on the road-side a little north of that which leads to Bowsden. The adjacent ground was, however, so very richly coloured, and so pleasant to the eye, that I was induced to examine the plants that made the vegetation, and it consisted of the following common species, arranged in the order of what seemed to be their predominance:—Lotus corniculatus, Trifolium glomeratum, Crepis virens, Festuca duriuscula, Trifolium pratense et repens, Tussilago farfara, in leaf, Equisetum arvense, Apargia hispida, Anthyllis vulneraria, Linum catharticum, Cnicus arvensis, not in flower, Plantago lanceolata, and Dactylis glomerata. A group of commoner things could scarcely be got together, and yet the result was beautiful.

† A lady herbalist gives the following receipt "for a delicate stomach": —"The Hundred-leaved Clover to be eaten with other salad, and a milk diet observed."—She also testifies to the benefit of a Groundsel poultice in sprains. Perhaps she got her knowledge of this from Culpepper. Yet the Groundsel is a plant that merits further inquiry as to its properties, which seem to be of a most active nature.

a. Lactuceæ, achæniis compressis. Sonchus arvensis: oleraceus: asper. Lactuca virosa. Lapsana communis.—*β. L. achæniis tereti-angulosis.* Tragopogon minor. Picris echioides. Crepis virens: succisæfolia: paludosa. Hieracium umbellatum: boreale=sabaudum: strictum: prenanthoides: silvaticum*: murorum: pilosella: aurantiacum. Taraxacum officinale: palustre. Apargia autumnalis. Leontodon hispidum. Hypochæris radicata.

Dipsaceæ.—Dipsacus fullonum. Knautia arvensis. Scabiosa columbaria. Succisa pratensis.

Valerianeæ.—A. **Sambuceæ**, baccatæ. Viburnum opulus. Sambucus nigra†, et *β.* laciniata: ebulus.—B. **Valerianeæ**, xerocarpæ. Valeriana officinalis, et *β.* sambucifolia: dioica. Valerianella olitoria: dentata.

Rubiaceæ.—Galium boreale: verum: mollugo: saxatile: uliginosum: palustre: cruciatum: aparine. Asperula odorata. Sherardia arvensis.

Caprifoliaceæ.—Lonicera periclymenum. Linnæa borealis.

Class ANNULIFLORÆ.

Campanulaceæ.—Campanula latifolia: rotundifolia.

Convolvulaceæ.—Convolvulus arvensis: sepium. Cuscuta epithymum.

Borragineæ.—Symphytum officinale: tuberosum. Anchusa sempervirens. Lycopsis arvensis. Myosotis palustris: repens: cæspitosa: silvatica: arvensis: versicolor: collina. Lithospermum arvense. Stenhammeria maritima. Echium vulgare. Cynoglossum officinale. Asperugo procumbens.

Labiatæ.—A. **Mentheæ.** Mentha silvestris: rubra: crispa: viridis: piperita: hirsuta: arvensis: pulegium. Lycopus europæus.—B. **Monardeæ.** Salvia verbenaca.—C. **Saturejineæ.** Origanum vulgare. Thymus serpyllum. Calamintha acinos. Clinopodium vulgare.—D. **Scutellarieæ.** Scutellaria galericulata. Prunella vulgaris.—E. **Nepeteæ.** Glechoma hederaceum.—F. **Stachydeæ.** Betonica officinalis. Stachys silvatica: ambigua: palustris: arvensis. Marrubium vulgare. Ballota nigra ‡. Galeopsis versicolor: tetrahit. Lamium album: purpureum: incisum: intermedium: amplexicaule.—G. **Buguleæ.** Teucrium scorodonia. Ajuga reptans.

Menyantheæ.—Menyanthes trifoliata.

---

* What I conjecture may be the H. cæsium of Fries grows, sparingly, on the face of Spindlestone crags. The herbage is a greyish-green, or glaucous; and the whole plant is thickly clothed with long hairs, patent on the stalks, and erect on the leaves, where each hair arises from a little black point or bulb. The plant is as hairy as any variety of H. pilosella I have seen.

† The leaves are occasionally variegated in a very beautiful manner by the veins becoming of a rich yellow colour, while the interspaces retain their ordinary green. The colours are distinctly limited, and the effect is striking. Only a few leaves of the bush whence I took my specimens were so marked, and they were quite healthy. I also noticed, in spring, that the leaves of Carex arenaria were, many of them, singularly marked with alternate green and orange-yellow bands. The yellow bands varied from $\frac{1}{8}$th to $\frac{1}{2}$ an inch in breadth. The leaves were healthy; and I could discover no cause for the variegation.

‡ Grows in profusion on Spindlestone crags, N.

Class TUBIFLORÆ.

Oleineæ.—Ligustrum vulgare. Fraxinus excelsior.

Asclepiadeæ.—Vinca minor.

Gentianeæ.—Gentiana campestris: amarella. Erythræa centaurium: littoralis.

Solanaceæ.—Solanum dulcamara: tuberosum. Hyoscyamus niger.

Personatæ.—A. **Verbasceæ.** Verbascum thapsus. Scrophularia nodosa: aquatica: ehrharti.—B. **Antirrhineæ.** Digitalis purpurea. Linaria vulgaris: minor: cymbalaria. Veronica officinalis: montana: chamædrys: beccabunga: anagallis: scutellata: serpyllifolia et β. humifusa: Buxbaumii: agrestis: polita: hederæfolia: arvensis.—C. **Rhinanthaceæ.** Bartsia odontites. Euphrasia officinalis. Rhinanthus crista-galli. Pedicularis palustris: silvatica. Melampyrum pratense et β. montanum: silvaticum.—D. **Orobancheæ.** Lathræa squamaria.

Lentibularieæ.—Utricularia vulgaris: intermedia. Pinguicula vulgaris.

Primulaceæ.—A. **Rotaceæ.** Lysimachia vulgaris: nummularia: nemorum. Trientalis europæa. Anagallis arvensis: tenella. Glaux maritima. Samolus valerandi.—B. **Preciæ.** Primula veris: vulgaris et β. umbellata.

Plantagineæ.—Plantago major: media: lanceolata: maritima: coronopus. Littorella lacustris.

Plumbagineæ.—Statice limonium*. Armeria maritima.

Series THALAMIFLORÆ.—Class DISCIFLORÆ.

Frangulaceæ.—Ilex aquifolium. Euonymus europæus.

Corneæ.—Cornus suecica.

Araliaceæ.—Hedera helix.

Umbelliferæ.—A. **Campylospermæ.** Conium maculatum. Myrrhis odorata†. Chærophyllum temulum. Anthriscus silvestris: vulgaris. Scandix pecten. Torilis anthriscus: nodosa.—B. **Orthospermæ.** Daucus carota. Heracleum sphondylium. Angelica silvestris. Silaus pratensis. Ligusticum scoticum. Æthusa cynapium. Œnanthe lachenalii: crocata: phellandrium. Cicuta virosa. Apium petroselinum‡. Ægopodium podagraria. Sison amomum. Bunium flexuosum. Pimpinella saxifraga. Sium angustifolium. Helosciadium inundatum: nodiflorum. Sanicula europæa. Hydrocotyle vulgaris.

Adoxeæ.—Adoxa moschatellina.

Acerineæ.—Acer pseudo-platanus: campestre. Æsculus hippocastaneum.

Resedaceæ.—Reseda luteola.

---

* Our plant is the St. Behen of Fries, Sum. Veg. Scand. p. 200.

† June 6. In flower, and in abundance, about the stackyard of Fouldenet-town, where it has been for many years. A boy called it a Sweet-Humlock. It has re-appeared at Burn-brae; and I also noticed the plant at Blanerne E. Mains.

‡ A strong decoction of Parsley, sweetened, and taken night and morning, our Lady-Herbalist tells us is good for the asthma.

Class SERTIFLORÆ.

NYMPHÆACEÆ.—Nuphar luteum.

RANUNCULACEÆ.—A. **Ranunculeæ.** Ranunculus arvensis : sceleratus : bulbosus : repens : acris : auricomus : lingua : flammula : aquatilis : fluitans : circinatus : hederaceus. Ficaria ranunculoides.—B. **Anemoneæ.** Thalictrum flavum : flexuosum *. Anemone nemorosa.—C. **Helleboreæ.** Caltha palustris. Trollius europæus.

BERBERIDEÆ.—Berberis vulgaris.

PAPAVERACEÆ.—Papaver rhœas : dubium : argemone. Glaucium luteum. Chelidonium majus.

FUMARIACEÆ.—Corydalis claviculata. Fumaria capreolata : officinalis †.

CRUCIFERÆ.—A. **Siliquosæ.** a. *Lomentaceæ.* Crambe maritima. Raphanus raphanistrum. Cakile maritima. b. *Brassicæ.* Brassica oleracea : campestris : napus : rapa. Sinapis arvensis : alba. Diplotaxis tenuifolia. c. *Sisymbrieæ.* Sisymbrium alliaria : officinale : irio : sophia. d. *Arabideæ.* Cheiranthus cheiri. Cardamine amara : pratensis : hirsuta : silvatica. Arabis thaliana. Barbarea vulgaris. Nasturtium officinale : silvestre : terrestre.—B. **Siliculosæ.** a. *Lepidineæ.* Coronopus ruellii. Lepidium latifolium : campestre : Smithii. Capsella bursa-pastoris. Thlaspi arvense. Teesdalia nudicaulis. b. *Alyssineæ.* Camelina sativa. Cochlearia officinalis : danica. Draba verna.

POLYGALEÆ.—Polygala vulgaris.

Class COLUMNIFLORÆ.

TILIACEÆ.—Tilia europæa : grandifolia.

MALVACEÆ.—Malva moschata : silvestris ‡ : rotundifolia.

GRUINALES.—A. **Geraneæ.** Geranium sanguineum : silvaticum : pratense §: pusillum : dissectum : molle : lucidum : robertianum. Erodium cicutarium.—B. **Oxalideæ.** Oxalis acetosella.—C. **Lineæ.** Linum catharticum : usitatissimum. Radiola millegrana.

---

* Mr. Babington has decided that the Thalictrum which grows at the Grey Mare's tail is TH. FLEXUOSUM of Fries, Ann. and Mag. N. Hist. Ser. 2. xi. p. 267. I find that the plant which grows on the bank opposite Spring-Gardens, and on Spittal links, is the same species. I have no specimen from any other locality I have mentioned for Th. minus. My specimen of Th. majus is from the Trow's-crags, and is so large that it occupies three sheets, although the base is wanting. I believe Mr. Babington would refer the plant to Th. flexuosum also. The stem, however, is decidedly hollow, but it is rather strongly furrowed; and the carpels are, in shape, similar to those of the genuine Th. flexuosum. The descriptions of Fries and Babington, of their species, do not exactly coincide.

† Mr. Watson says that FUMARIA MICRANTHA is now known to occur in the county of Berwick. Cyb. Brit. iii. p. 315.—I have never met with the species.

‡ The white variety grows on the Spindlestone hills intermingled with the ordinary plant.

§ I omit Ger. columbinum, for it is merely a straggler with us, or the tenant of policies.

HYPERICINEÆ.—Hypericum quadrangulum : dubium : perforatum : humifusum : hirsutum : pulchrum : calycinum.

CISTINEÆ.—Helianthemum vulgare.

VIOLARIÆ.—Viola lutea : tricolor et β. saxatilis et γ. arvensis : canina : odorata : hirta : palustris.

DROSERACEÆ.—Parnassia palustris *. Drosera rotundifolia : anglica.

SILENACEÆ. — A. *Lychnideæ*. Silene inflata : maritima : noctiflora. Lychnis vespertinum : diurnum : flos-cuculi. Agrostemma githago. —B. *Diantheæ*. Saponaria officinalis. Dianthus deltoides.

ALSINACEÆ.—A. *Stellariæ*. Malachium aquaticum. Stellaria nemorum : media : holostea : glauca : graminea : uliginosa. Cerastium arvense : vulgatum : viscosum : semidecandrum : tetrandrum. Mœhringia trinervis. Arenaria serpyllifolia.—B. *Alsineæ*. Halianthus peploides. Alsine verna. Mœnchia erecta. Spergula nodosa : subulata. Sagina procumbens : maritima : apetala.—C. *Lepigoneæ*. Spergula arvensis. Lepigonum rubrum : marinum.

Series CALYCIFLORÆ.—Class FAUCIFLORÆ.

RIBESIÆ.—Ribes nigrum : rubrum † : grossularia.

SAXIFRAGEÆ. — Saxifraga stellaris : hirculus : hypnoides : granulata. Chrysosplenium alternifolium : oppositifolium.

CRASSULACEÆ. — Sempervivum tectorum. Rhodiola rosea. Sedum telephium : acre : anglicum : villosum.

LYTHRARIEÆ.—Lythrum salicaria. Peplis portula.

ONAGRARIEÆ.—Epilobium angustifolium : hirsutum : tetragonum : virgatum : montanum : palustre : parviflorum : alsinifolium : alpinum. Circæa lutetiana.

HALORAGEÆ.—Myriophyllum spicatum. Hippuris vulgaris.

Class ROSIFLORÆ.

POMACEÆ.—Pyrus malus : aucuparia : aria. Cratægus oxyacantha.

SENTICOSÆ.—A. *Roseæ*. Rosa canina : Forsteri : sarmentacea : Borreri : cæsia : dumetorum : tomentosa : villosa : rubiginosa : spinosissima : gracilis : Sabini.—B. *Sanguisorbeæ*. Agrimonia eupatoria. Sanguisorba officinalis. Poterium sanguisorba. Alchemilla vulgaris : arvensis.—C. *Dryadeæ*. Rubus idæus : plicatus : nitidus : rhamnifolius : macrophyllus : carpinifolius : cordifolius : mucronatus : leucostachys : rudis : radula : Koehleri : corylifolius : cæsius ‡ :

---

* "Grass of Parnassus in our bogs doth thrive,
Whose pale white flowers may with the Snowdrop strive.
With grassy stripes each tender leaf is vein'd,
And lucid orbs on silver threads sustain'd."—R. SURTEES.

† This occurs in Dunglass dean where it could not have been planted, and with a look about it as if it were really wild there.

‡ It should have been mentioned that the figures of the leaves of the Rubi are exactly one half the size of the specimen from which they were drawn.

saxatilis : chamæmorus. Fragaria vesca. Comarum palustre. Potentilla anserina : argentea : tormentilla : reptans : verna : fragariastrum. Geum urbanum : intermedium * : rivale. —D. *Spirææ.* Spiræa salicifolia : ulmaria : filipendula †.

Drupaceæ.—Prunus domestica : insititia : spinosa : avium : padus.

Papilionaceæ.—A. *Vicieæ.* Pisum arvense. Lathyrus sylvestris : pratensis. Orobus tuberosus, et *β.* tenuifolius. Faba vulgaris. Ervum hirsutum. Vicia orobus : silvatica : cracca : sepium : sativa : lathyroides.—B. *Astragaleæ.* Astragalus glyciphyllus ‡ : hypoglottis.—C. *Trifolieæ.* Lotus corniculatus et *β.* villosus et *γ.* tenuifolius : major. Medicago lupulina : sativa. Melilotus officinalis : vulgaris. Trifolium pratense, et *β.* sativum : medium : striatum : scabrum : arvense : repens : fragiferum : procumbens : minus.—D. *Genisteæ.* Anthyllis vulneraria. Ononis arvensis : antiquorum. Spartium scoparium. Genista tinctoria : anglica. Ulex europæus : nanus. Cytisus laburnum : alpinus.

Class CENTRIFLORÆ.

Ericineæ.—A. *Vaccinieæ.* Vaccinium myrtillus : vitis-idæa : oxycoccos. —B. *Ericeæ.* Erica tetralix : cinerea. Calluna vulgaris. Arbutus uva-ursi.—C. *Pyroleæ.* Pyrola rotundifolia § : media : minor : secunda.

Empetreæ.—Empetrum nigrum.

Euphorbiaceæ.—Euphorbia esula : helioscopia : peplus : exigua. Mercurialis perennis.

Portulacaceæ.—Montia fontana.

Paronychiaceæ.—Scleranthus annuus.

Polygoneæ.—Fagopyrum esculentum. Polygonum bistorta : amphibium : lapathifolium : persicaria : hydropiper : aviculare : convolvulus. Rumex crispus : pratensis : sanguineus : acutus : obtusifolius : palustris : acetosa : acetosella.

Series INCOMPLETÆ.—Class BRACTEIFLORÆ.

Thymeleæ.—Daphne laureola.

Eleagneæ.—Hippophaë rhamnoides ||.

Ulmaceæ.—Ulmus montana : campestris.

---

* I have noticed this hybrid to be more abundant than in any previous year. It was in great profusion, and beauty, on the bank above Berry-burn where this crosses the road to Wooler; and I noticed it also frequently about Warn-mills. Our plant is G. urbanum hybridized by the pollen of G. rivale.

† In abundance in the plantations on Spindlestone hills, Mr. W. Richardson. From the quantity of it, one might presume the plant to be indigenous there; but a doubter will suggest that the wood amidst which the Dropwort grows has been planted, and that only recently.

‡ On the banks between Warn-mills and the Heatherhouse, N.

§ June 30. N. On the top of Kyloe crags, in flower, on a boggy spot in the plantation, R. C. Embleton.

|| The name should have been printed in small capitals, for I can see no reason to doubt its nativeness in the locality given.

URTICACEÆ.—Humulus lupulus. Urtica urens: dioica. Parietaria officinalis.

CHENOPODIACEÆ.—Atriplex rosea: deltoidea: patula: erecta: angustifolia: littoralis. Chenopodium botryoides: bonus-henricus: album. Schoberia maritima. Salsola Kali. Salicornia herbacea.

JULIFLORÆ.—Quercus robur: sessiliflora. Fagus silvatica. Castanea vulgaris. Corylus avellana. Carpinus betulus.

SALICINEÆ.—Populus alba: canescens: tremula*: nigra: monilifera: fastigiata: balsamifera. Salix alba: fragilis: russelliana: vitellina: pentandra: purpurea: helix: viminalis: smithiana: caprea: cinerea: aurita: andersoniana: tenuifolia: fœtida: repens: fusca: argentea: prostrata.

BETULINEÆ.—Betula alba. Alnus glutinosa.

MYRICEÆ.—Myrica gale.

CONIFERÆ.—Pinus silvestris. Abies pectinata: excelsa: larix. Juniperus communis. Taxus baccata†.

APPENDIX.—EQUISETACEÆ.

Equisetum.—*a. biformia.* E. arvense. *b. vernalia.* E. silvaticum. *c. æstivalia.* E. palustre: fluviatile: limosum. *d. hiemalia.* E. hyemale.

Class NUDIFLORÆ.

CALLITRICHINEÆ.—Callitriche verna: platycarpa: pedunculata.

CHARACEÆ.—Chara vulgaris: hispida: flexilis.

MONOCOTYLEDONEÆ.

Class FRUCTIFLORÆ.

ORCHIDEÆ.—A. **Ophrydeæ.** Orchis mascula: maculata: latifolia. Gymnadenia conopsea. Platanthera chlorantha: bifolia. Habenaria viridis.—B. **Neottideæ.** Epipactis latifolia: palustris. Listera ovata: cordata. Neottia nidus-avis.

IRIDEÆ.—Iris pseudacorus. Narcissus pseudo-narcissus. Galanthus nivalis.

HYDROCHARIDEÆ.—Anacharis alsinastrum.

---

* Certainly wild on the sea-banks S. of the Cove, growing on the verge where vegetation necessarily ceases from the abruptness and nakedness of the rocks, the bases of which are washed by the sea in full tide. The Aspen is there a low shrub.

† "That it is poyson to Kine will appear by what followeth. Master Wells Minister at Adderbury in Oxfordshire, seeing some Boyes breaking Boughs from the Yew Tree in the Churchyard, thought himselfe much injured. To prevent the like Trespasses, he sent one presently to cut downe the Tree, and to bring it to his back side. This being done, his Cowes began to feed upon the Leaves, and two of them within few houres dyed. A just reward." Coles' Art of Simpling, p. 59. Lond. 1656.—To the conclusion I say Amen!

Class LILIIFLORÆ.

LILIACEÆ.—A. **Tulipeæ.** Tulipa silvestris.—B. **Asphodeleæ.** Allium arenarium: oleraceum: vineale: ursinum: schœnoprasum *. Scilla verna: nutans.—C. **Asparageæ.** Convallaria polygonatum.

ALISMACEÆ.—Alisma plantago: ranunculoides. Triglochin palustre: maritimum.

NARTHECIACEÆ.—Narthecium ossifragum.

JUNCACEÆ.—Juncus. *a. Lateriflori.* J. conglomeratus: effusus: glaucus. *b. Articulati.* J. acutiflorus: lampocarpus: uliginosus. *c. Squarrosi.* J. squarrosus: cœnosus: bufonius. Luzula pilosa: silvatica: congesta: campestris.

Class SPADICIFLORÆ.

AROIDEÆ.—Arum maculatum. Lemna minor: trisulca.

POTAMOGETONEÆ.—Potamogeton natans: oblongus: plantagineus: heterophyllus: lucens: rufescens: perfoliatus: crispus: pusillus: gramineus: pectinatus: filiformis. Zanichellia palustris. Zostera marina.

TYPHACEÆ.—Typha latifolia. Sparganium ramosum: simplex: nataus.

CYPERACEÆ.—A. **Cypereæ.** Schœnus nigricans.—B. **Scirpeæ.** Cladium mariscus. Blysmus compressus: rufus. Scirpus silvaticus: maritimus: lacustris: setaceus: fluitans: cæspitosus: multicaulis †: palustris: pauciflorus. Eriophorum angustifolium: latifolium: vaginatum.—C. **Cariceæ.** Carex riparia: paludosa: vesicaria: ampullacea: hirta: silvatica: pendula: lævigata: binervis: fulva: flava: Œderi: extensa: præcox: pilulifera: pallescens: glauca: panicea: limosa: atrata: acuta: vulgaris: rigida: remota: stellulata: curta: teretiuscula: paniculata: muricata: vulpina: arenaria: dioica: pulicaris: ovalis: intermedia.

---

* June 30. Gathered this rare species on Spindlestone hills, in a spot to which I was directed by Mr. Wm. Richardson of Alnwick, who has the merit of having discovered it there. I will not indicate the locality with more exactness, lest that should lead to the destruction of one of our chiefest rarities.—Mr. Richardson claims to have first observed Mœnchia erecta on the same hills, where it grows in rather a scattered manner. I picked specimens from within the area of the old camp on the summit.

When strolling there I cut a piece of turf nearly of the same size as that which I have analysed from the Eildon hills, in order to ascertain the difference in the herbage of a hill on the sea-side from that on our inland boundary; and this is very remarkable. Achillæa millefolium and Festuca ovina formed the basis of the turf, which contained, besides, Galium verum, Aira cristata, Carex præcox, Trifolium minus, Bellis perennis, Cerastium semidecandrum, Hypnum velutinum, and Peltidea canina. Another piece of very small size contained Cardamine pratensis, Trifolium repens, Cynosurus cristatus, and Polytrichum commune. All the plants were of diminutive size,—the Cardamine scarcely an inch in height, with a single blossom.

† Grows in great abundance on the shore between Warn-mills and Buddle, with Blysmus rufus, and other good plants.

Class GLUMIFLORÆ.

GRAMINEÆ.—Series EURYANTHÆ. Flos sub anthesi patens; styli breves, stigm. basi exserta.—A. **Hordeaceæ.** Spicatæ! Triticum. *a. Cerealia.* T. vulgare: turgidum. *b. Agropyrum.* T. junceum: repens: caninum. Secale cereale. Hordeum. *a. Cerealia**. H. vulgare: hexastichum: distichum. *b. Campestria.* H. murinum: pratense. Lepturus incurvatus. Lolium perenne. Brachypodium silvaticum.—B. **Festucaceæ.** Glumæ flore proximo breviores. *a. Festuceæ*, paleæ inf. nervi convergentes omnes mediive in aristam confluentes. Cynosurus cristatus. Dactylis glomerata. Festuca gigantea: elatior: pratensis: loliacea: rubra: duriuscula: ovina: bromoides. Bromus racemosus: mollis. Schedonorus asper: sterilis. Poa pratensis: compressa: trivialis: Balfourii: annua. Briza media. Glyceria fluitans: plicata: maritima: rigida. Molinia cærulea. Catabrosa aquatica.—C. **Avenaceæ.** Glumæ spiculam æquantes. *a. Aireæ*, palea inf. dentic. Triodia decumbens. Aira cæspitosa: flexuosa. Arrhenatherum avenaceum. Avena. *a. Annuæ*, panicula æqualis. A. sativa: nuda: fatua. *b. An.* panicula secunda. A. orientalis. *c. Perennes.* A. pratensis: pubescens. Airopsis caryophyllæa: præcox. Trisetum flavescens. Koeleria cristata. Holcus lanatus: mollis. Melica nutans: uniflora.—D. **Agrostideæ.** Rachiola abortiva. *a. Arundineæ.* Phragmites communis. *b. Agrosteæ.* Ammophila arenaria. Calamagrostis lanceolata. Agrostis alba: vulgaris.—Series CLISANTHEÆ. Flos clausus, styli elongati, stigmata ex apice exserta. A. **Alopecureæ.** Alopecurus pratensis: geniculatus. Phleum pratense: arenarium.—B. **Phalarideæ.** Digraphis arundinacea. Anthoxanthum odoratum.—C. **Nardeæ.** Nardus stricta.

HETERONEMEÆ.

Class FILICES.

POLYPODIACEÆ.—Polypodium vulgare: phegopteris: dryopteris. Aspidium aculeatum: lobatum: angulare: thelypteris: oreopteris:

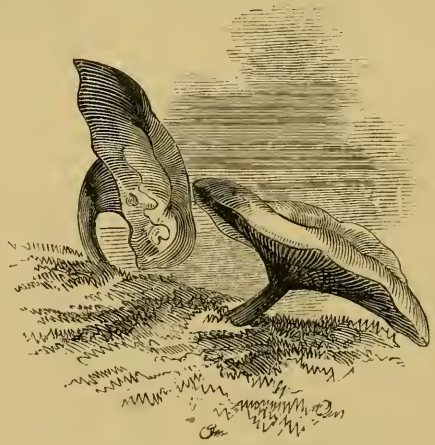
---

* "It is a remarkable fact that we are still in uncertainty whether the different kinds of grain still grow wild in the old world, and if so, in what region this occurs. Even the authors of antiquity were at variance as to whence wheat and barley, the chiefly-used grain at that time, had been derived, and in the various statements less regard seems to have been paid to actual facts, than to the fertility of the countries, and the desire to secure for the native land of the writer the honour of having furnished so great a gift to mankind. The same uncertainty still prevails respecting these two kinds of grain, and the same is true of oats and rye. It was supposed that the rye had been found wild upon the Caucasus, but late observations have shown that this wild plant is different from the cultivated, particularly in having the central stem of the ear so brittle that it cannot be threshed. A wild rye is also found in Sicily, but this too has characteristics by which it differs from the cultivated kind. When plants are met with, in a wild condition, exactly like our kinds of grain, it is usually in places which have been cultivated at a former period, and thence it is probable that they are only outcasts, and not wild aborigines." Schouw. The Earth, Plants, and Man, p. 138.

---

* The history of the Male Fern proves the unjust neglect into which native remedies easily fall. Our early herbalists all extol the root as a medicine which "killeth both the broad and long worms in the body;" and the truth of it begins to be recognized. See Professor Christison in Month. Journ. of Medical Science for July 1853.

† "It hath beene credibly reported to me, from severall hands, that if a man take an Elder stick, and cut it on both sides, so that he preserve the joynt, and put in his Pocket when he rides a journey, he shall never gall." "And if a Footman take Mugwort and put into his Shoos in the Morning, he may goe forty Miles before Noon and not be weary. I have read that the lesser Moonwort will open Locks and pull off the Shooes of the Horses feet that passe over it. I have heard that if Maids will take wilde Tansey, and lay it to soak in Buttermilke for the space of nine dayes, and wash their faces therewith, it will make them look very faire." Coles' Art of Simpling, p. 68.—Master W. Coles rebukes Mr. Culpeper for telling "my countrymen," "nonsensicall stories of I know not what." (!)



AGARICUS INVOLUTUS.

INDEX.

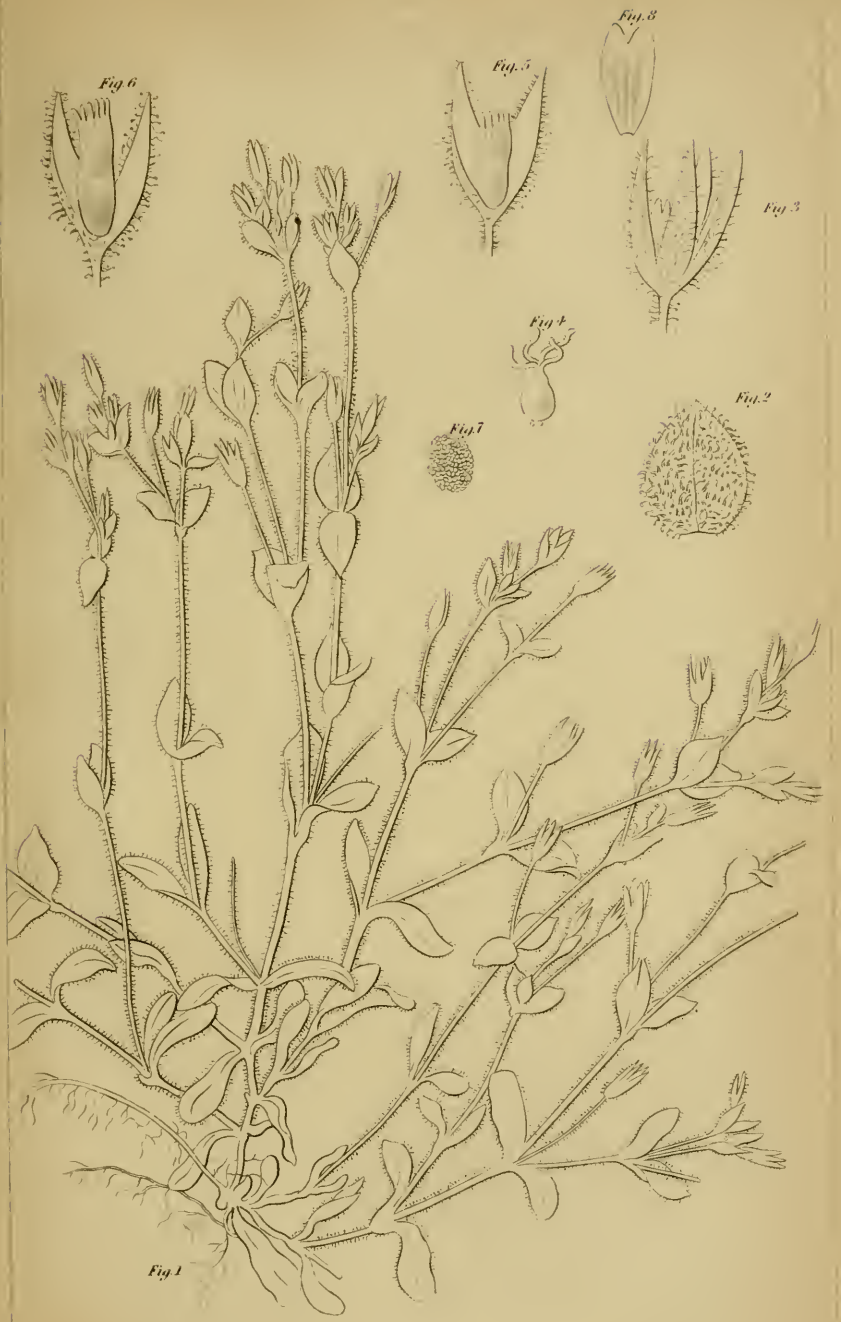
CORRECTIONS.

Page 129, line 8, *for* for *read* or.
— 153, — 7, *for* route *read* rout.
— 157, — 13, *for* Houndlee *read* Hundalee.
— 213, — 8, *for* fiold *read* hold.
— 239, — 12, *insert* went *before* thither.
— 247, — 41, *for* stimulate *read* simulate.

FINIS.

Printed by Taylor and Francis, Red Lion Court, Fleet Street.

PLATE I.

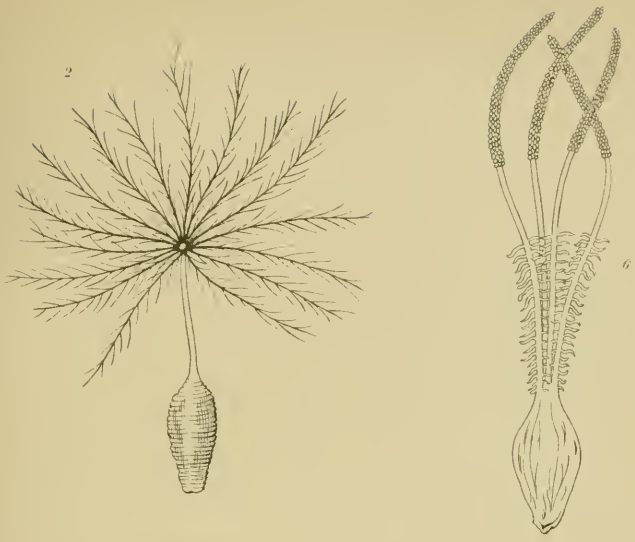


C Johnston del.

PLATE II.

PLATE III.

PLATE IV.

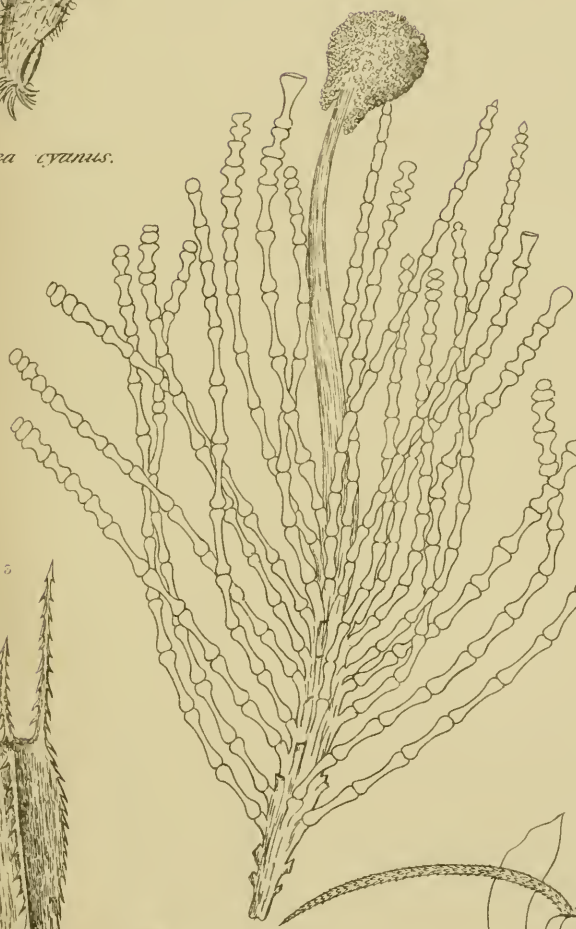


Helminthia

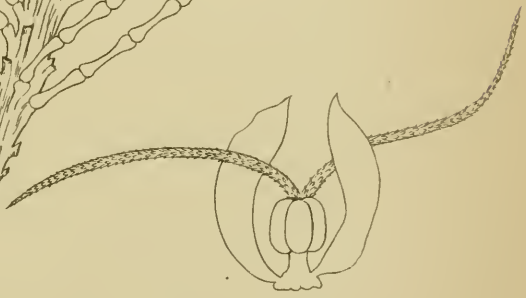
Tussilago farfara. *Tragopogon major.*

Centaurea cyanus.

The Butterbur.



Bidens cornua.



Callitriche verna.


Snipe Point
Coves
Ness Ends
Ploughed Land
below blown Sand
Limekilns
Emmanuel Head
Snuke
Bounds of Cultivation
From Berwick
Lough
HOLY ISLAND
Sheldrake Bay
St Cuthberts Island

Fig 1

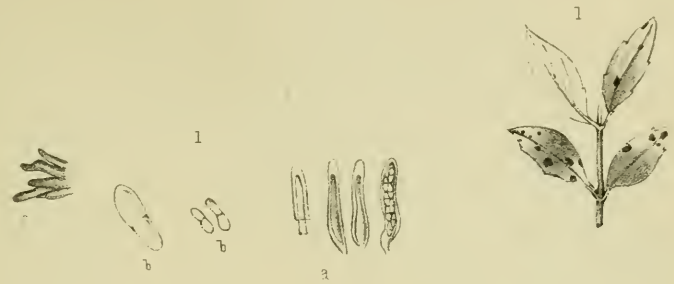
Fig 2

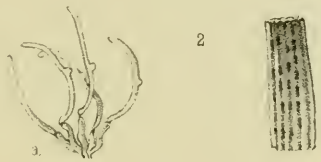
...nston, Del.

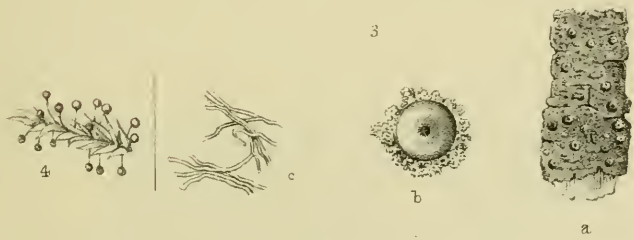
E. Storey, Lith. Newcastle

M.J Berkeley, Del

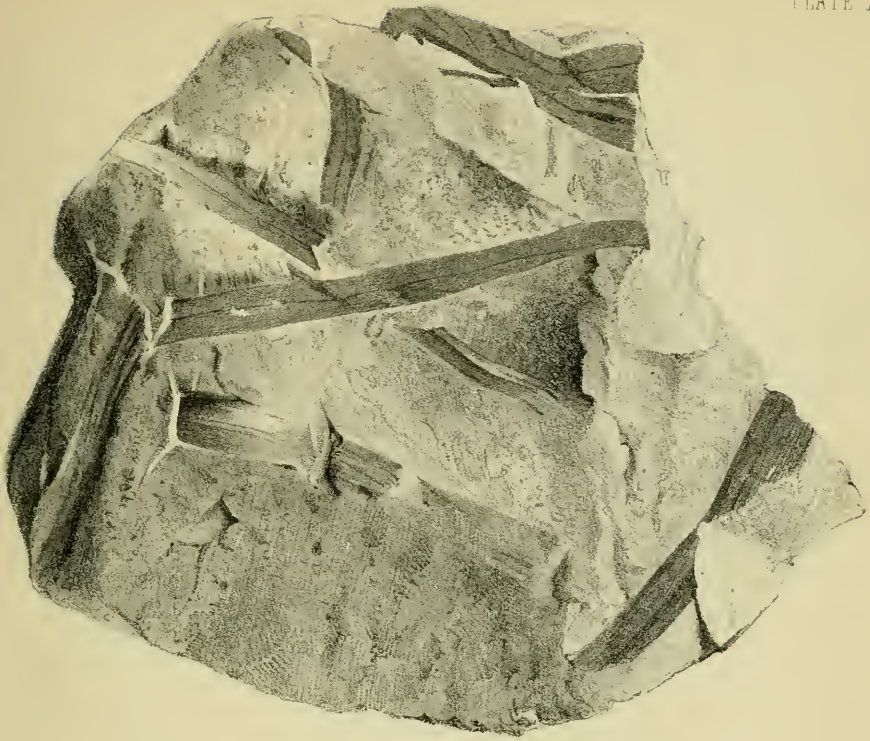
Storey lith. Newcastle

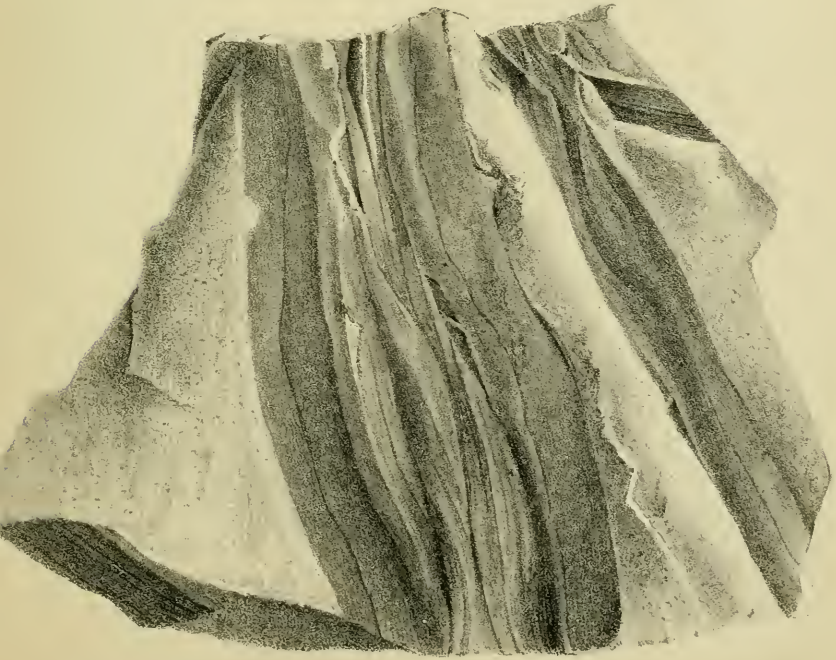

1
1
b
b
a


2
3.


3
4
c
b
a


4
c
b
a





J. Storey Del. et Lith. Newcastle

1.

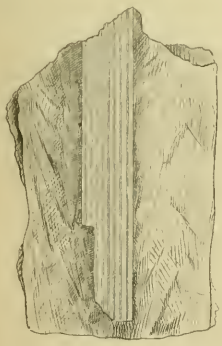
2.

3.

7.

7 a.

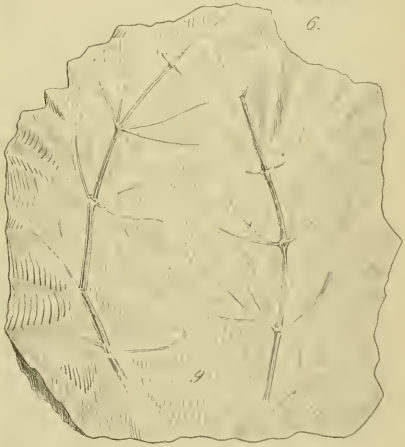
6.



4.

4 a

5



9.

8.

8. a.

TYNESIDE NATURALISTS' FIELD CLUB.

The anniversary meeting was held in the committee-room of the Literary and Philosophical Society, on Wednesday week, when the retiring President, Sir W. C. Trevelyan, Bart., read a highly interesting address to the members. 8 March 1854

A paper entitled "Notes on the Effects of the extreme Wet Winter of 1852-3 upon Insects" was also read by Mr. J. G. Bold, in which reference was made to the dense swarms of *aphides* which made their appearance in the North of England and elsewhere in the autumn of last year, and which created so much alarm to many persons during the prevalence of the cholera.

The Secretary, Mr. Storey, announced that he hoped to have the first part of his "Flora of Northumberland and Durham" ready for distribution among the members before the next anniversary.

Mr. Storey also called the attention of the meeting to an isolated boulder, bearing strong marks of glacial or diluvial action, which he had observed lying partially exposed in a field on the Elswick estate, between South Parade and Scotswood Road.

Mr. Daniel Oliver exhibited numerous well-dried specimens of plants which he had collected at the field meeting held in Teesdale in July last.

The places selected for the field meetings of the ensuing season are Dilston and Devilswater, Brinkburn Priory, Lindisfarne, Castle Eden Dene, Northumberland Lakes, and Alnwick. It is also intended to hold a subterranean meeting in one of the coal-mines of the Tyne or Wear.

The following gentlemen were elected officers for the year ending February, 1855:—President, Thomas Sopwith, F.R.S.; Vice-Presidents, Sir W. C. Trevelyan, Bart., W. Kell, Dr. Embleton, Joshua Alder, Joseph Fryer, and Ralph Carr; Treasurer, Thomas Burnet; Secretaries, John Storey and Edward Mather; Committee, Rev. G. C. Abbes, Albany Hancock, John Thompson, T. J. Bold, R. J. Green, Rev. William Greenwell, Richard Howse, Joseph Blacklock, John Storey, jun., W. Sidney Gibson, F. J. Peck, and D. Oliver, jun.

New members elected:—Messrs. R. W. Bleasby, C. Crighton, William Green, jun., D. H. Goddard, and Cuthbert E. Ellison, Esq., J.P.

The thanks of the meeting were voted to Sir W. C. Trevelyan, Bart., for his interesting address, &c., &c.