

was likewise a very small aperture between the lids, which were but imperfectly developed, and without any lachrymal puncta, although the lachrymal gland must have been present, since there was a copious flow of tears occasionally observed, as in crying. In one of the children, who died when only a few months old, the optic nerves within the cranium were found to be remarkably small, as if atrophied or undeveloped; they did not enter the optic foramina, neither did they form the usual junction, but remained single through their entire course.

In some cases, only one eye has been deficient; when this is the case, it has been usually found situated in the middle of the forehead, and formed of the two eyes imperfectly united: thus, the palpebræ were joined in the centre, the optic nerves in a state of union, two lachrymal glands, the lens very large, and the iris apparently divided. This deformity is seldom observed, except in domesticated animals. Other monsters have been described having four eyes; these are generally accompanied by malformation of other parts of the body.

ON THE
MEDICAL BOTANY
OF THE
PARISH OF HALIFAX.

By JOHN S. HILEY, Esq., A.B., M.B., T.C.D.

Τους μὲν τ' ἡτροὶ πολυφάρμακοι ἀμφι-
περὸνται.—HOMER.

IN offering to the notice of the readers of THE LANCET a paper on the medical botany of this extensive parish, I ought to premise that it is not my intention to enter very minutely into the subject, or to give a long account of the virtues, &c., of each herb that grows. By the first step I shall avoid becoming tedious, and by the second I shall not subject myself to the charge of filling its pages with much unnecessary matter. In following out this view I may be allowed to state, in the commencement of my writing, that whether we take into consideration the medical or general botany of the parish, perhaps no other district of the same size throughout Great Britain is so well supplied with plants. I am not, however, aware that we can boast of many rare specimens. The situation is more remarkable for the number, and for the elegance and luxuriance of the more ordinary vegetable products, than for anything else: so much so, indeed, that if I were about to write its general botany, I should feel some difficulty in deciding whether it would not be easier to give a catalogue of the plants which do not grow here, than to enumerate those whose habitats are amongst

us. Most of the ordinary specimens alluded to in the writings of Sir James Smith and Dr. Hooker may be gathered in the greatest abundance; and, providing the waters of the ocean washed the borders of this parish, so as to render it suitable for the growth of vegetables which have their habitats near the seashore, I should then hold that no other tract of country of the same area could boast of a more extensive and varied herbarium. This fact may be explained, probably, by the great variety of soil which is met with here, and also by the mixture of hilly and romantic scenery with the more even and picturesque. In a word, we have districts closely resembling the Highlands of Scotland; whilst at the foot of these are flats, valleys, and slopes, which rival in beauty whatever has been seen in the South of England. Do you walk out in spring, summer, autumn, or winter, your attention is everywhere invited to the plants peculiar to each season. Every situation has its display, whether in the fields and woods, on the banks of rivers, among the lanes and hedges, or on the hills; and here we may gather almost unnumbered flowers of a thousand variegated hues. It may be observed of the entire parish what the illustrious Goldsmith said of "sweet Auburn"—

"Here smiling spring its earliest visit paid,
And parting summer's ling'ring blooms delayed."

In speaking of the locality of this parish, we have to add, in the language of the celebrated Whittaker, "that it is situated within the wapentake of Morley, in the West Riding of the county of York, and comprises a mountainous and bleak region of country, forming a portion of what are usually termed the English Appenines. It extends 17 miles from east to west, and on an average 11 miles from north to south, and contains an area of 75,140 English statute acres. Its boundaries on the north-west, west, and south-west, are the parishes of Rochdale and Whalley, in the county of Lancaster; on the south, the parish of Huddersfield; on the south-east, the chapelry of Hartishead; on the east, the parish of Birstall; and on the north, the parish of Bradford, in the county of York. The whole district now comprising this great parish, may be considered as one valley with its numerous collateral forks, bounded, at very unequal and constantly-varying distances, by two high and barren ridges of moor-stone. The general appearance of the bottoms is pleasing and picturesque; scarcely a foot of level ground appears, except the alluvial lands, which are unusually fertile. The sides of the hills immediately above are hung with woods and native oak, which delights in the clefts and crevices of sandstone, though it rarely attains in such situations the bulk and majesty of form which it acquires in deeper soils. So various is the course of the principal valley, that the eye is never fatigued by resting on one uniform and protracted expanse,

but is delighted with sudden and unexpected turns, producing new and varied beauties. Above these are long and widely-extended slopes, where art and expense, which manufactures alone could have afforded, have triumphed over what otherwise would have been deemed unconquerable barrenness, producing a verdure not unequal to that of native fertility. Above all appear the purple ridges of the mountains, defying all the power of man, and destined for ever to contrast the original face of savage nature with the effects of toil and industry. On the brows of these hills frowns many a sturdy block of free-stone, sometimes, perhaps, worn away by storms to a narrow and immovable point, which the fondness of antiquarian fancy has decreed to be Druidical. From the boundary of Lancashire to the valley which separates the townships of Halifax and Ovenden from Northowram, the whole basis of the parish is gritstone. Immediately to the east of this valley argillaceous strata, with their general concomitants, stone and iron, once more appear."

Of the medical botany of this, the largest parish in England, I now propose to write; and in doing so, it must be remembered that it is to the physician that it will be principally interesting; and though there is not that attention given to the subject which was paid to it by our forefathers, yet still it is fraught with innumerable charms. If former ages were characterised by an overweening confidence in the efficacy of herbs, it cannot be denied that medical men are far too neglectful of them at the present. To have steered a middle course between these two extremes would have been greatly preferable, and we should thus have avoided the foibles of the one with the punctiliousness of the other. In extenuation of this evil, we are told by the medical men of our own day, that a *materia medica* composed of indigenous productions is not suited to the constitutions of the present inhabitants of this country; that the use of foreign luxuries has introduced diseases formerly unknown, and consequently that exotic remedies are to be employed in their cure. I am not disposed to deny *in toto* the truth of this assumption, but still I am bound to believe that many native remedies are allowed to lie dormant around us, because of the addition to our pharmacopœias which foreign climes and the recent investigations in chemistry have enabled us to make. I am also of opinion that every country produces vegetable remedies calculated to remove the diseases of that country, providing the constitutions of its inhabitants have not been modified by the use of foreign luxuries. Again; another reason may most likely be assigned for the falling into disrepute of native productions. In former ages Great Britain had not acquired that high state of cultivation which it has in later days arrived at; and in all proba-

bility this is to be looked to as one cause of the change in the opinions and practices of medical men. It is well known that when herbs are not produced in their natural state their properties and qualities are materially altered, and therefore it is that the cultivation of lands once waste and uncultivated, has diminished the medical virtues of herbs which formerly flourished there. Many examples testifying the truth of this observation might be adduced. Thus plants, poisonous in their native state, are often rendered innocuous by cultivation. The *conium maculatum* of ancient Greece, though the herb administered to Socrates, loses a great portion of its poisonous qualities when introduced here. This, however, is not a case exactly to the point, but my readers will no doubt be enabled to call to their recollection many instances which are. I am the more disposed to dwell here, because even at the present day there are many wild parts of Yorkshire where medical botany is still cultivated, and where the diseases of these districts continue to be treated by native productions. It must be remembered that foreign luxuries have not changed the ancient character and primeval simplicity of the people; and hence the native herbage is still considered highly efficacious, and holds its place against the increasing current of recently-imported remedies. It is here that indigenous plants are gathered in all their exuberance; where the localities are best calculated for their growth; where modern fashions have not as yet changed the nature of the soil; and it is in these sequestered and uncultivated spots where the botanist culls his choicest specimens. In the mountainous parts of this neighbourhood, I have repeatedly seen a collection of more than thirty specimens, the medical virtues of each of which were known to the owner. In these places nature may be said to sport at her greatest ease; she is, as it were, unsubdued by cultivation, and accordingly all her productions are possessed of properties which the hand of Providence originally assigned to them. Here medical botany is the study of every rustic; and each cottage, whether on the mountain or in the glen, has its herbal. I now propose to give a catalogue of the vegetable sanatives which are to be met with in the parish of Halifax, in the order of their classes. To the names of those which, from their high medical qualities, have some importance attached to them, I shall merely subjoin a short notice of their habitats and seasons of flowering, inasmuch as their virtues are sufficiently notified by other writers. Of the rest I shall content myself with particularising the names, reserving any remarks I may have to offer either to a future part of the essay, or I will place them along with the catalogue. In being able to supply the habitats, I must not omit to state how greatly I am indebted to my respected friend, Mr. Robert Leyland, of Halifax, whose knowledge of

the general botany of this parish none can surpass.

The catalogue is as follows :—

DIANDRIA.—*Monogynia*.

Veronica beccabunga.

Fraxinus excelsior.

Used in place of cinchona in ague.

TRIANDRIA.—*Monogynia*.

Valeriana officinalis. Common in June.

TETRANDRIA.—*Monogynia*.

Galium aparine.

Asperula odorata.

Plantago major, *minor*, and *media*.

The whole genus is mucilaginous and astringent. The seeds yield their mucilage to hot water, and have been employed for the same purposes as linseed and mallows.

PENTANDRIA.

Monogynia.

Convolvulus arvensis.

Convolvulus sepium.

Purgative, like the exotic *convolvuli*.

From fifteen to twenty grains of the watery extract of the roots of *convolvulus sepium* act freely as a drastic purgative, and without much griping.

Erythræa centaureum.

Solanum dulcamara.

Behind Bradley Mills, near Elland, and in other parts of the parish, in June and July.

Digynia.

Angelica sylvestris.

General in July ; its virtues are similar to the *archangelica* : which last is one of the most elegant aromatics of European growth, and it is somewhat strange that it should be so little regarded in modern practice.

Myrrhis odorata.

At Stern Mill and on the banks of the stream between Gatehead and Bower's Mill, in May. The young seeds have the flavour of anise, and are gratefully stomachic.

Ceanthe crocata.

Near Copley Mills, and in Elland-park, just above the road leading to Brighouse, in July. It is very poisonous.

Conium maculatum.

On the banks of the Calder, &c., in June and July.

Cethusa cynapium.

Common in July and August.

Trigynia.

Sambucus nigra.

Common in woods and hedges in June.

Pentagynia.

Linum catharticum.

In dry pastures in many parts of the parish, in June, July, and August.

HEXANDRIA.

Monogynia.

Allium ursinum.

Very common in May and June. It is stimulant and diuretic.

Trigynia.

Rumex ; several species.

A decoction of the leaves of these herbs in whey affords an useful and agreeable drink in febrile or in inflammatory disorders. Like the *oxalis acetosella*, they owe their properties to the binoxalate of potash which they contain. They possess many properties in common with rhubarb, and have the same botanical characters. They also belong to the same natural family.

Polygynia.

Alisma plantago.

In the canal near Elland and Salter-hebble, in July. The Russians have introduced this to the notice of physicians as a remedy for hydrophobia.

OCTANDRIA.

Monogynia.

Vaccinium myrtillus.

Vaccinium vitis Idæa.

In Birks Wood, near Halifax, in June.

Vaccinium oxycoccus.

On the moors near Barkisland, &c., in June. These shrubs are refrigerant and astringent, and it is a pity that modern practice has not paid more attention to them.

Erica vulgaris.

Said to be useful in lithiasis.

Trigynia.

Polygonum bistorta.

The root of this plant resembles rhubarb in some of its properties. It is also a powerful styptic, and is employed in all kinds of immoderate hæmorrhages and other fluxes, both internally and externally. It is given in powder, the largest dose of which is one drachm. Common in June.

Tetragynia.

Paris quadrifolia.

In North Dean Wood, and in Duns-park-lane, near Elland, but not plentifully, in May and June. Root emetic, like *ipecacuanha*, and poisonous.

DECANDRIA.

Monogynia.

Pyrola media.

In North Dean Wood, near Elland, in July and August.

Trigynia.

Cucubalus bacciferus.

A nicely-flavoured vegetable.
Stellaria media.

Pentagynia.

Oxalis acetosella.

Refrigerant and antiseptic. It is considered a good salad in scorbutic affections. In the pharmacopœia its place is supplied by lemon-juice and citric acid. Binoxalate of potash is its active principle, and hence it is given in fevers by continental physicians. It is said to be the real shamrock of Ireland.

ICOSANDRIA.

Monogynia.

Prunus spinosa.

Common in hedges and thickets, particularly about Raistrick, where it flowers in March and April. An infusion of the flowers is a safe and easy purgative.

Pentagynia.

Spiræa ulmaria.

Common in June and July. It is highly aromatic.

Polygynia.

Rosa canina. Common in June and July.

Tormentilla officinalis.

Potentilla reptans.

Common in June, July, and August.

Astringent, and as such I have used it with benefit.

Geum urbanum.

POLYANDRIA.

Monogynia.

Papaver rhæas.

In corn-fields in June and July.

Polygynia.

Anemone nemorosa.

Ranunculus acris, *bulbosus*, *flammula*, *ficaria*, *hederaceus*, and *gramineus*.

DIDYNAMIA.

Gymnospermia.

Glechoma hederacea.

Common on the banks of the Calder, &c.

Betonica officinalis.

Teucrium scoradonia.

An useful bitter. Very common.

Thymus serpyllum.

On Midgeley Moor, where it flowers in July and August. It is stimulant, diuretic, and emmenagogue, and ought not to be neglected in places where it is found.

Mentha; some species.

Angiospermia.

Euphrasia officinalis.

Very common. It is astringent and aromatic, and hence its efficacy in collyria.

Scrofularia nodosa.

Digitalis purpurea.

Both are common in every part of the parish. They flower in June and July.

Antirrhinum linaria.

Diuretic. In hedges and the borders of fields. Frequent in June and July.

TETRADYNAMIA.

Siliquosa.

Cardamine pratensis, *hirsuta*, and *amara*.

Erysimum alliaria. Warm and pungent.

Sisymbrium nasturtium.

Raphanus raphanistrum.

Sinapis arvensis.

MONADELPHIA.—*Decandria.*

Malva sylvestris.

DIADELPHIA.

Hexandria.

Fumaria officinalis.

Dr. Cullen recommends the juice of this herb in leprous disorders.

Octandria.

Polygala vulgaris.

It is tonic, bitter, and expectorant, and is good for a catarrhus cough. By some it is made use of as a substitute for seneka.

Decandria.

Spartium scoparium.

SYNGENESIA.

Polygamia Æqualis.

Leontodon taraxacum.

Arctium lappa.

Polygamia Superflua.

Tussilago farfara.

Solidago virga aurea.

Anthemis cotula.

Achillea millefolium.

Pyrethrum; one or two species.

Senecio vulgaris.

MONECIA.

Monandria.

Euphorbia helioscopia.

Common in cultivated grounds in July and August. It was employed as a purgative by the Grecians. The juice is acrid, and is occasionally applied to warts.

Tetrandria.

Urtica urens, and *dioica.*

Polyandria.

Quercus robur.

Arum maculatum. Common in May.

DIECIA.

Diandria.

Salix; several species.

Tonic and astringent. They are well deserving the attention of medical men.

Hexandria.

Tamus communis.

Common in hedges, where it flowers in June.

CRYPTOGAMIA.—*Filices.*

Aspidium filix mas.

Anthelmintic. Beginning to be forgotten, owing to the discovery of the superior effects of oil of turpentine in killing and expelling tænia. It is gratifying, however, to watch the operation of the fern root, more especially when its administration is attended with the good effects ascribed to it in medical authors.

In the preceding catalogue it will be seen that I have enumerated several plants which either have never obtained a place in the pharmacopœias of this country, or being once placed there, have since been expunged, or have otherwise fallen into disrepute. Respecting several of them I shall, as I before stated, take the liberty of making some further observations, inasmuch as they were often the subject of experiment in the practice of my late father, and have since been submitted to trial by myself; for in every admissible case I have had recourse to native remedies rather than to foreign ones. Hence it is that I have repeatedly experienced the utility of mountain flax, or Billy Roundhead, as it is termed by the inhabitants of the wilder parts of Yorkshire, as a purgative. In some complaints, I consider it equal, if not superior, to senna. An infusion may be made in the same manner as the infusion of senna of the London Pharmacopœia. It grows in great abundance in many parts of this parish, particularly in dry pastures; and numerous are the cases amongst the lower classes which have been treated successfully by this agent. The character of disease in the district to which I belong is inflammatory. This arises from the peculiar occupations, high living, &c., of the inhabitants. In affections of this nature, then, and wherever the bowels require a free purge, I am confident, from a variety of observations, that the *linum catharticum* will answer every purpose. Moreover, its operation is not attended with the griping and tormina which accompany the action of the more costly native of Africa and India. I have known the *linum catharticum* given in conjunction with senna; that is, an infusion made of equal parts of these drugs. When this has taken place, I have seen many instances where the purgative qualities of the two in combination exceeded in a great degree those of either production separately. The operation of purging flax is as rapid as that of senna, and, like it, its effects extend over the whole length of the alimentary canal. In combination, also, with sulphate of magnesia, it is extremely useful during the spring and autumn, at which time the system often requires to be relieved of those humours which, according to many of our earlier pathologists, have been previously collecting. Purgin flax may be collected and dried in June, July, and August, during which months it is in flower, and afterwards cut up into

small pieces, and preserved for use. It may be mixed with an equal quantity of senna, or kept in a drawer by itself.

In the eruptive affections to which the inhabitants of this district are liable in the early part of spring, or the beginning of summer, I have frequently had occasion to remark the benefits arising from the use of a decoction of several herbs which may be gathered here. Amongst the first I may mention the *galium aparine*, or, as it is sometimes termed in English, Robin-run-the-hedge, and the *urtica urens*. A cupful of the infusion or rather decoction of these herbs, taken three times a-day, not only operates gently upon the bowels, but exerts a rather brisk action on the kidneys. In this manner they serve to cool the system, and to disperse the humours too prevalent at the season. They also determine to the skin, producing salutary perspirations. In the course of this essay I shall have to allude to other herbs possessed of somewhat similar properties, and like the above administered in the spring of the year.

The *pyrola media*, which is found in this parish, though not plentifully, has called forth the attention of medical men. Like the *pyrola umbellata*, recommended in the Dublin Pharmacopœia, it is possessed of tonic and diuretic qualities, and has been employed as such by some physicians with seeming advantage. In those places where it grows more abundantly, I think it ought not to be disregarded, since the *pyrola umbellata*, one of the same genus, has been exhibited with success by several American and Irish physicians. The last has succeeded in removing ascites, and other forms of dropsy, after digitalis and other remedies had failed; and it is said to have proved serviceable in acute rheumatism, intermittents, and other diseases assuming an intermittent type.

Dr. Ives, of America, states, that it will frequently mitigate symptoms of gravel, and strangury proceeding from other causes. Dr. Beatty, of Dublin, has published, in the Transactions of the Association of the College of Physicians of that city, a very satisfactory instance of its efficacy in a case of dropsy, after other remedies had been tried in vain. With the same intent the *pyrola media* was used in decoction by my father, and the beneficial effects consequent thereon were sufficient to warrant further trials. It is very bitter. From the results of a series of experiments, it appears probable that a principle, highly active, and possessed of the properties of this herb in a superior degree, as well as in a more concentrated form, might be obtained, which would render its exhibition less troublesome both to the physician and the patient. Such a preparation, we are prepared to expect, would, like the quintessence of other bitters, rest better on the stomach.

In the list of the other plants of this neighbourhood, whose medical virtues are worth noticing, are several of the family of the rosaceæ. Amongst these the tormentilla officinalis and geum urbanum hold a prominent place. I have occasionally wondered at the inferior position which the tormentil occupies in the pharmacopœias of this country. Undoubtedly, as a tonic, we possess many which are superior, but most of these are of foreign growth; and, moreover, as I had occasion to remark before, I am always in the habit of using indigenous specimens, especially if they grow in my own immediate neighbourhood, wherever this can be done safely and satisfactorily. This parish, particularly the vicinity of Elland, is peculiarly rich in tormentil. It is of the finest kind; and, what is better, it has numerous habitats, so that the herbalist can collect it in almost any quantity. The season of the year during which it flowers, and its beautiful widely-expanded corolla, will point it out to the gatherer. It loves loose and sandy soil, in places exposed to the rays of the sun, where it sports and basks the whole of the summer; and it is worthy of remark, that its root, when gathered in such situations, is far more powerful as a tonic, than when dug up elsewhere. Its root is the only part used in medicine; and this may be obtained in the middle of summer, when the plant is in flower. It is usually given in infusion, and wherever tonics are required; in cases occurring in my own practice, I have noticed its beneficial effects.

In speaking so highly of tormentil, I do not wish to rate its virtues above those of gentian, Columba, or cascarrilla; but still I think it does not fall very far beneath them; and considerable experience leads me to the belief, that it is better calculated than any of these for the inhabitants of this district. It may not be considered either presumption or bigotry to observe, that if it had not been peculiarly useful, nay, ordained for society here, it would not have flourished amongst us in such abundance; and I am the more willing to stand forward the supporter of this doctrine, because I think it cannot be too deeply rooted in the minds of my medical brethren.

The geum urbanum also still maintains its place in the pharmacopœia, but it is not so generally employed as its good qualities would seem to warrant. Its effects are tonic, astringent, and febrifuge; and it is said to be an excellent substitute for Peruvian bark. It is only, however, in the country parts of England where herbs of this kind can be submitted to trial, for in large towns the attention of practitioners is not sufficiently directed to native sanatives. Both the stem, leaves, and roots of the geum were early held in great esteem in dyspepsia, dysentery, chronic diarrhoea, and flatulent colic; but for reasons best known to medical

men themselves, they are seldom if ever exhibited. Notwithstanding this, the geum was often made use of by my late father in dyspepsia particularly, in which an infusion or decoction of it was found to be serviceable.

In the latter part of summer I have frequently met the honest countryman with bundles of the common avens under his arm; and on inquiry I have always discovered that it is the only remedy he can meet with for a dyspepsia with which he is often afflicted. In the lower walks of life it is made into tea. This plant is met with in abundance in the woods, shady, dry hedges, and thickets, in many parts of this parish, particularly in the neighbourhood of Elland. Here it flowers from May to August. Its flower is often a source of pleasure and admiration to the young botanist, because appearing thus early in the season, and in places which he is supposed to frequent, it presents to him something peculiar and strange. Moreover, he may have some difficulty in making out its name. It would seem, that amongst the continental practitioners it is more generally employed than amongst those of Great Britain.

Along with the tormentil and geum we will place the erythræa centaureum. In the dry, gravelly pastures of this parish it grows abundantly. It was once celebrated as a stomachic and tonic, and accordingly I have often given it with success in conjunction with the first-mentioned sanative.

It is now my duty to make a few passing remarks on the family of the ranunculaceæ. I have long entertained an opinion that preparations of the more acrid of these plants might be advantageously employed as external irritants. This idea is grounded on the fact, that when the juice of the ranunculus flammula is inserted into a slight wound, or scratch, on the surface of the skin, considerable pain and inflammation is the consequence. Moreover, when the juice is allowed to remain on the unbroken surface, well-marked vesication, in the course of a few hours, is produced. Vesication, however, thus effected, is, I believe, if anything, more painful than that arising from the application of a common blister. The different members of this family all possess vesicatory powers; they vary, however, in this, that some are much more powerful than others. I imagine that the ranunculus ficaria is least, whilst the ranunculus acris and flammula are the most irritating of those which grow in Great Britain. Both these last are very common. The habitats of the ranunculus flammula are marshy places, and the edges of swamps and ditches, where it flowers during the middle of summer. The whole plant is possessed of this acrid quality; and Dr. Withering recommends the distilled water as an emetic in cases of poisoning: he does not, however, mention the dose.

The *R. sceleratus* and *alpestris* are possessed of well-marked vesicatory powers, and readily blister the skin. The former in a bruised state, after blistering, leaves a sore, which is not easily healed, and by which strolling beggars, of the gipsy class, have been known to excite compassion. According to Haller the *R. alpestris* is the most acrid of its tribe. It is remarkable, however, that the Alpine hunters chew it by way of refreshment, as removing fatigue, and preventing giddiness. It is not the only one of this family possessed of acrid and vesicatory properties, which may be eaten with impunity; for the *R. acris*, *arvensis*, and *bulbosus*, are eaten greedily by cattle.

Possessed, then, of such acrid qualities, I would gladly invite the attention of medical men to their probable value as external irritants; and I would ask whether it would not be worth the while of country practitioners to apply them for producing vesication. They would, undoubtedly, prove serviceable, and might, after a few trials, be found to answer all the purposes of the Spanish fly. They would prove especially advantageous in country practice, as being more readily obtained; for in most situations the more common members of this highly-important family are in flower the greater part of the year. Here, the *R. acris*, *bulbosus*, and *flammula*, may be gathered in great plenty; and their bright yellow flowers, of various size, serve to decorate many spots which, without them, would be somewhat deficient in botanical specimens. Like the *ranunculaceæ*, the *arum maculatum*, in its fresh state, when rubbed between the fingers, blisters and excoriates. Whether it could ever be used for the production of vesication is yet to determine; and the fact that it loses its acrimony by drying, &c., may throw an insurmountable obstacle to its application in this way. By burying the roots in a cellar, in sand, they may be kept fresh for a year. Slight mention ought also to be made of the *anemone nemorosa*. This belongs to the family of the *ranunculaceæ*. It is possessed of an acrid taste, and its effects are rubefacient and blistering. Few plants are more common.

It is to be hoped that the talented writers and discoverers in vegetable chemistry will hereafter turn their attention to the subject under discussion. Here is a wide field for investigation. A train of experiments directed into this channel might be well repaid, and might ultimately lead to the discovery of preparations highly useful in a medical and pharmaceutical point of view.

The large family of the *labiatæ* present many plants which, on trial, have been found beneficial in certain diseases. Persons affected with stone or gravel, I have known to experience some relief during the paroxysm of this most painful affection, by drinking tea made from the *glechoma hede-*

racea. Its general effects are expectorant and tonic. Some of the other members of this important family are much esteemed amongst the lower orders of this parish, as cordials and stomachics; and, with respect to their tonic powers, I can myself bear testimony to their value. In those cases where there is loss of strength, accompanied with a white, but not a highly-furred tongue, together with a weak and deranged stomach, where the pulse is quick, but the skin not hot, and where there are few febrile symptoms, I have frequently observed great and unexpected benefit to arise from the use of an infusion made from some of the members of this family, in conjunction with chamomile, wormwood, and tansy. These last, the reader will recollect, are of the family of the *compositæ*.

In speaking of the *labiatæ*, I must not forget to make particular mention of the *betonica officinalis*. It is remarkable as an emetic, and its root is said to be emetic and purgative. I have often had occasion to notice the large quantities of this vegetable, which are annually collected by the poorer inhabitants; and for a long time I was at a loss to ascertain to what purposes it could be applied. On inquiry, however, I found that an infusion or decoction of it was drunk as tea, in laxity and debility of the viscera, and disorders proceeding therefrom. I have known my father order betony-tea with success in affections of the head, depending on derangement of the stomach and intestinal canal. Its sternutatory powers are not owing to any peculiar stimulating quality in the herb, but to the fine rigid hairs with which the leaves are covered. In the woods and thickets of this parish it is found plentifully, putting forth its beautiful purple flowers in July and August, which stand in dense spikes on the tops of the stalks. It has been affirmed by Simon Paulli and Bartholinus, that betony affects those who gather any considerable quantity of it with a disorder resembling drunkenness. I have tried this experiment on my own person, and have made inquiry amongst those who are yearly in the habit of collecting it, but I could never yet satisfactorily ascertain that any such disorder was experienced by them. Not to doubt the above-mentioned authorities, it is probable that the herb may have different properties in different districts, or that this peculiarity may, in some measure, depend upon the time of gathering. In my own case it was gathered when in flower. If its sensible qualities are to be held in any estimation, I would recommend it strongly to the attention of practitioners in the country parts of England.

The natural family of the *scrofularinææ* offers two indigenous medical plants to our attention. These are the *digitalis purpurea* and the *scrofularia nodosa*. The first is too well known to need any comment here. The

latter, though possessed of tolerable medical virtues, is not in so envious a position, for latterly it has declined very much in the estimation of practitioners, and has been all-but expunged the *materia medica*. To me, however, it seems that medical men have been too hasty in forming an estimate of its value; and, moreover, I can produce the names of other men of much higher character than myself, whose ideas respecting the *scrofularia nodosa* are in perfect unison with my own. In the older *pharmacopœias*, diuretic and sedative properties are ascribed to it. It was considered serviceable in *scrofula*, whence its name, and was recommended on the authority of many celebrated physicians as an excellent fomentation to piles, malignant tumours, spreading ulcers, and cutaneous eruptions. Within the last few years, Dr. Whistey Stokes, regius professor of physic in the university of Dublin, introduced it to the notice of the profession on account of its great efficacy in curing a malignant disease to which children are liable, generally called "burnt holes," and for which Dr. Stokes proposed the name of *pemphigus gangrenosus*; in the cure of which complaint it has been found to act almost as a specific. The figwort, in these cases, was employed in the form of an ointment; which last was made in the following manner:—

Take of the fresh leaves of the knotty-rooted figwort;

Prepared hog's-lard; of each two lbs.

Prepared mutton suet; a lb.

Boil the leaves in the fat until they become crisp, then strain by expression.

Long prior to the recommendation of Dr. Stokes, this remedy was in constant use in my father's practice, amongst the inhabitants of the township of Elland, in *scrofulous* sores, *impetigo*, and *tinea capitis*; in all which affections we considered it possessed of very considerable efficacy. In these cases, the parts affected were fomented with a decoction of the leaves and roots of the figwort, or poultices were applied made of the bruised leaves and roots. Amongst the lower orders, where this remedy was alone employed, there are many who can bear testimony to its value; and in such estimation is it held, that it has acquired the pithy epithet of the "black doctor."

In the hedges, woods, and thickets of this parish, the *scrofularia nodosa* may be gathered in tolerable plenty. It is a perennial plant, of a dark sombre aspect, flowering in July. From its darksome appearance, and its medicinal virtues conjointly, it appears to have derived the appellation given to it above.

Another herb which grows here, and which is in great use, is the *malva sylvestris*. I believe it to be the first of the four emollient

herbs.* It is in a high degree mucilaginous and demulcent; and as such, decoctions of its leaves and roots are beneficially employed in dysentery, strangury, &c. In the form of enema I have known it had recourse to in *tenesmus*, &c.; and as cataplasms and fomentations in phlegmonous inflammations. It has gained deserved repute with the poor, by whom, in the form of cataplasms and fomentations, it is repeatedly used; and in all the cases mentioned above, I have seen it exhibited by my father with very evident success. About the hedges, road-sides, and in the waste grounds of this parish, it is often seen, putting forth its beautiful purple flowers from May to August. I cannot help remarking that in no place have I observed this herb in such plenty as in the vicinity of Dublin. The same remarks hold with respect to the *althæa officinalis*. We cannot apply to the *malva* what is often applied to noxious weeds, viz., that being the more hurtful they are the more common, for it grows here in the greatest abundance; and would medical men pay that attention even to the three *malvæ* which they seem to me to merit, I feel confident they would find them gifted with virtues that would amply repay any trouble which might be encountered in gathering them. The whole family, to which this beautiful and useful herb belongs, has several remarkable characteristics, one of which is the disposition of the seeds. I may observe that all the *malvaceæ* abound in mucilage; and hence they may, in a medical point of view, be substituted for each other with very little inconvenience. The young leaves of the *malva sylvestris* are boiled and eaten in several parts of Europe.

Notwithstanding that the *spartium scoparium* still occupies a place in medical authors, it would be unpardonable in me to allow it to pass without notice. And I am the more desirous of dwelling a little upon it, because I think it is now beginning to suffer from the neglect of practitioners both in the town and country. This shrub, the emblem of the great family of Plantagenet, flowers in May and June, at which period its tops may be gathered for medical purposes. As a diuretic in general dropsy, it deserves our highest encomiums; and a better proof could not be afforded of its value, than the numerous successful cases recorded in my father's note-book, in which this lowly, but beautiful, plant is reported to have been given. In my own practice it has also proved extremely beneficial, and I feel persuaded that there are few practitioners in the parish whose opinions do not accord with my own. It is given in decoction, sometimes alone, and sometimes in conjunction with other diuretics.

* The *malva sylvestris*, *rotundifolia*, and *moschata*, and the *althæa officinalis*, are the four emollient herbs alluded to in the text.

The large family of the *compositæ* next claim our attention; and here I would mention the *arctium lappa*, the *leontodon taraxacum*, *tussilago farfara*, *solidago virga aurea*, *anthemis cotula*, *Achillæa millefolium*, and one or two species of the *pyrethrum*. The root of the *arctium lappa* is aperient, diuretic, and sudorific; and I have often seen its decoction administered in rheumatic, gouty, and venereal disorders. Some physicians prefer the roots to *sarsaparilla*.

The extract of dandelion is ranked as a diuretic in the pharmacopœia. The experience, however, of a vast body of medical gentlemen has of late years induced the profession at large to a limitation of its virtues in this respect. In this opinion, when speaking of the extract, I in some measure concur; but I cannot accede to any such being broached, as regards the leaves and roots of the fresh plant. All the individuals of my acquaintance, who can boast of any knowledge of the virtues of herbs, agree with me in placing great value on this agent in its fresh state. And if the testimony of medical men be more readily received, there are many who will add their support to the diuretic virtues of *leontodon*. In dropsies, occurring in the lower walks of life, I have prescribed a decoction of its leaves and roots with extraordinary benefit, and this, too, more especially in cases of ascites connected with hepatic obstructions. It may not be out of place to remark here, that another very humble, but very beautiful herb has latterly been brought forward, as possessed of diuretic properties, by Dr. Walker, senior physician to the Huddersfield Infirmary. I allude to the *asperula odorata*. I have not had an opportunity of exhibiting it myself; and I ought to add that, in those cases where it was supposed to be beneficial, it was given in conjunction with calomel.*

The *tussilago farfara* is probably the most common plant we have. It has numerous localities. In the moist shady situations on the banks of the Calder, and other streams, it is met with in unparalleled luxuriance; and on the chalky and marshy soil around the numerous quarries it is more abundant than any other botanical specimens of the district.† Its flowers, which are put forth before the leaf, appear in March and April: they are amongst the earliest of our spring flowers, and, as such, many agreeable asso-

ciations are connected with them. The whole of the plant is in a high degree mucilaginous. It was in consequence of its flourishing around Elland, that my father was induced to have occasional recourse to it in his practice. It stands recommended in phthisis, coughs, asthmas, and other disorders of the chest. It was, however, in asthma where my father found colt'sfoot tea most serviceable. He himself, being afflicted with this complaint, was in the habit of trying this amongst other remedies, and he was seldom disappointed. It proved useful in allaying the irritable cough attendant on this affection, and as such we were accustomed to recommend it to those similarly afflicted; and I am bound to observe, that however colt'sfoot tea may have succeeded in the hands of other practitioners, it seemed highly suited for the asthmas of this district.

I come now to the *solidago virga aurea*. In the groves, thickets, grassy lanes, as well as on the heaths around Elland, and elsewhere, it may be gathered in July, August, and September. This plant has long been looked upon as a remedy in debility and laxity of the viscera, and disorders proceeding therefrom. The leaves have a moderately-astringent, bitter taste, which probably led to its employment in the affections alluded to. In many cases of this nature, I have seen it exhibited with good effect. In the wilder and less populous portions of the parish it is often had recourse to by the poor, who are in the habit of collecting and drying it during the season of flowering.

The *anthemis cotula* has been gathered here, but not in quantity to admit of its use in medicine. It is a very acrid plant, producing vesication even when handled. Gifted with this quality, it might, in places where it grows abundantly, cooperate with the *ranunculaceæ*. I would press this especially upon the attention of medical men, and ask whether such an indigenous production, if it were only for the sake of experiment, is not deserving their consideration. This blistering property of the *A. cotula* is attributed by Haller to minute resinous dots which are sprinkled over its surface. In this view all other botanists concur.

The last of the *compositæ* which are deserving our notice are the *Achillea millefolium* and the *pyrethrum*. The first is astringent and aromatic, and stands recommended in diarrhœa, and debility and laxity of the fibres. The Germans consider it a very effectual astringent, and in this character it was administered by Stahl. It may be exhibited in the form of spirit, tincture, or infusion. The first is the best, and most perfect preparation. In diarrhœa it is occasionally used by the inhabitants of this parish.

* Since the above was written, I have been informed by Dr. Walker that he has, during the present year, administered the *asperula odorata* alone in infusion to a lady, labouring under ascites; which affection it succeeded in removing, after all other remedies had failed.

† It is a fact worth noticing, that wherever the ground has been quarried, large crops of this singular but well-known plant invariably spring up.

The pyrethrum, of which two species are frequent here, is bitter, and accounted tonic, stimulant, and anti-hysterical. As such I have seen it administered in infusion with some advantage. Having extended these observations much beyond my original design, I will now endeavour to bring them to a conclusion. There are many other plants, growing in this neighbourhood, which have been advantageously employed both as external and internal agents. Thus fomentations, composed of chickweed and groundsel, are highly useful in phlegmonous inflammations, and are often substituted, in cases of this nature, for poppy-heads and chamomile. Tea composed of brooklime, * sweet-docks, nettles, &c., is in great demand for the eruptive affections appearing in the spring of the year, and towards the dispersion of which it materially contributes. The lower orders frequently have recourse to this remedy, either at their own suggestion or at that of some practitioner: it serves to cool the system, and, in the language of the humoral pathologists, expels a mass of humours from the body. This tea invariably operates as a diuretic, and often as a diaphoretic.

Many of the cruciferæ flourish here; amongst which I may mention the brassica, cardamine, sinapis, and sisymbrium. The stimulant effects of these herbs depend on the essential oil which they contain, and which is very remarkable in the seeds of the mustard, and in the roots of the horseradish. Several of them become mild and mucilaginous by cultivation, and then their roots and leaves are used as food. The cabbage and turnip afford examples of this. The antiscorbutic virtues of the cruciferous plants, as well as their power in affecting vesication, would seem, in a great measure, to depend on their essential oil. The members of this family are all innocent. They contain a portion of azote, a principle more peculiar to animal than vegetable life; and hence arises the foetid smell from these plants when decaying. The fixed oil found in many of them may be extracted by grinding. The seeds of the mustard, after having undergone this process, are stated to have their powers as sinapisms considerably augmented. They are reported to contain sulphur. On the presence of nitrogen seems to depend their power of generating ammonia, when undergoing the putrefactive fermentation. As antiscorbutics, and in dispelling periodic eruptions, they assist the other plants which I have mentioned; and in all likelihood it would be to the advantage of society generally, if the cruciferæ were more commonly employed both as medicines and as food.

* The leaves of the veronica beccabunga remain all the winter, but are in greatest perfection in that season when they are most useful.

I have thus completed my remarks on the indigenous medical plants of this district; and though much more might have been added, without any attempt, on my part, to spin out the paper, yet I have thought it preferable to rest content with the little which has been said. It will be seen how important the subject is, and I trust it will not fail to enlist labourers in the field, where so rich a harvest awaits their enjoyment, and where much remains for the industrious to accomplish. Would physicians write the medical botany of those places in which they reside, how soon should we become possessed of a perfect and highly valuable catalogue of all the medicinal productions of Great Britain! Leaving its utility, in a medical point of view, out of the question, no one will or can deny, that it is fraught with immense interest, in whatever light we choose to consider it, and it only requires but a very moderate share of our attention to discover the mine of riches which it contains. It is not because we are so well supplied with foreign drugs, that we are to despise the productions of our native land; it is not because those foreign medicines are so powerful, that our own should prove inferior to them; but it is probable that if as much attention had been paid to our native sanatives as has been to those imported from abroad, we should now have possessed medicines equally powerful, and with this additional advantage, that they might be produced in the vicinity of our dwellings. Such, however, is the fact, that, with a very few exceptions, we have, for a long series of years, been in the habit of treating native diseases, not by native but by foreign remedies, and this, too, to the exclusion of indigenous productions, which had nothing to condemn them but our own caprice. This being the case, it is to be hoped that these observations will have their due weight in the minds of my medical brethren; and should I but draw the attention of a single individual to this part of my subject, any labour which I may have undergone in bringing it before them, will be amply repaid.

Elland, near Halifax, May 25, 1841.

ON VACCINATION IN INDIA.

To the Editor of THE LANCET.

SIR:—If the following few facts observed in vaccination are by you considered of sufficient importance, I beg you will give them a place in your widely-circulated Periodical.

They are from notes which accidentally escaped the destruction of many other papers and were collected between the years 1825 and 1829, while I was vaccinator (or superintendent of vaccination) over