NORTH STAFFORDSHIRE

# Naturalists' Field Club

AND

ARCHÆOLOGICAL SOCIETY.

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# ANNUAL REPORT.

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1877.

# NORTH STAFFORDSHIRE
# Naturalists' Field Club.

## 1877.



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... LITCHFIELD, ESQ.

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W. DUNNETT SPANTON, ESQ.

SECRETARY:

REV. THOS. W. DALTRY.

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|---|---|---|
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COMMITTEE:

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MR. J. W. EDGE.
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MR. J. P. EMERY.
MR. W. H. GOSS.
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# REPORT

*Read at the Twelfth Annual Meeting, held at Stoke-on-Trent, on Thursday, March 22nd,* 1877.



The Committee beg to present to the members of the North Staffordshire Naturalists' Field Club their Twelfth Annual Report, and in so doing they are gratified in being able to attest the continued prosperity of the Club. The Excursions and Evening Meetings have been attended quite as well as in previous years: the roll of members again shows a considerable increase: the financial condition is highly satisfactory: and, if the papers read before the Club have not been so numerous as in some former years, those that have been contributed have been full of interest, and have conclusively proved that no little pains and research have been bestowed upon them by their authors. The system of sections adopted at the last annual meeting has worked with some success, not, however, so great as was perhaps anticipated at the time by its promoters. The Geological and Archæological sections secured, as might have been expected, by far the largest number of adherents, and that good work has been done by them is shown by the reports, which their secretaries have prepared, and which they will lay before you. The Entomological section has also been in operation, and has made some additions during the past year to the North Staffordshire list of Macro-Lepidoptera. The remaining four sections, viz.: Astronomy, Botany, Microscopy, and Zoology proved less popular, and as they failed to fill they have so far remained in abeyance; but although it has thus been left to the isolated efforts of individual members to investigate these branches of Natural History, it must not be supposed that there have been no results: on the contrary, among other evidences of the truth of this statement, your Committee would especially refer to the able paper on the Wild Flowers of North Staffordshire, read at the Newcastle Meeting by the Rev. D. Edwardes, of Denstone, which attracted general attention, and at the time appeared to arouse considerable enthusiasm in this most interesting department of Natural History: may not the hope be expressed, that that enthusiasm may be the means of arousing into action the dormant energies of the Botanical

In concluding their report, which has reached a length that can only be justified by the varied amount of work included in the scope of the Society's action and actually done in the course of the year, your Committee would urge on each of the 377 members, of which the Club now consists, the duty of devoting themselves to the study of some branch of Natural History or Archæology. So much remains to be done in this district, so far at least as most departments of the former are concerned, that there is considerable room for research, and even for discovery—a fact which should surely add zest to our labours, and be no small incentive to increased exertion. The best course would be for every member to join one or more of the sections, which were established a year ago, and your Committee would particularly mention the Botanical section, which only awaits adherents to get into active operation.

THOS. W. DALTRY,
SECRETARY.

The Twelfth Annual Meeting was held on Thursday evening, March 22nd, 1877, at the Railway Hotel, Stoke, the retiring President, W. Molyneux, Esq., F.G.S., F.R.Hist.S., being in the chair. The attendance was very large, upwards of a hundred members being present. On the tables were a collection of fossils from the limestone, exhibited by Mr. T. Wardle, F.G.S., some old pottery contributed by Mr. W. H. Goss, and some beautifully illustrated works lent by Mr. C. M. Campbell, M.P.. Mr. F. Adams showed a binocular microscope, and Mr. T. Turner a radiometer.

The Meeting having been opened by the President, three new members were elected, and nine more nominated.

The Report of the Committee was read by the Secretary, and ordered to be printed.

Mr. Spanton being at the last moment unavoidably prevented from attending, the financial report was read by the Secretary. It appeared, that including a balance in hand of £16 16s., there was an excess of income over expenditure amounting to £24 8s. 10d. ; the total income being £78 1s., and the total expenditure £53 12s. 2d. The Stoke and Leek subscriptions had not, however, been sent in, and the sum of £40 lent to the Publication Committee has not yet been repaid. But of this sum Mr. Brunt has in hand about £20, and there are still some copies of the publication in hand, for which he will be glad to receive orders. It is therefore evident that the financial prospects of the Club are most satisfactory.

For the first time sectional reports were presented : the Geological, by Mr. J. L. Cherry, F.G.S., the Archæological, by Mr. Lynam ; and the Entomological, by the Rev. T. W. Daltry. They were all ordered to be printed with the Annual Report.

The officers of the Club for the ensuing year were appointed, as recommended by the Committee, as were also the places and dates of the Excursions and Evening Meetings.

The Annual Address was then read by the retiring President, Mr. W. Molyneux. It was entitled "Some associations of Natural History with Domestic Life." After which Mr. Molyneux in behalf of the Club presented to the Rev. T. W. Daltry a very handsome and valuable silver epergne, and a copy of the revised edition of Curtis's "Flora Londinensis," in five large folio volumes, as an acknowledgment of his services to the Club for the last nine years as Honorary Secretary. Mr. Daltry in acknowledging the kindness of the members, observed that he had gained a great deal more from belonging to the Club than ever he had given to it. It had been the means of his forming many friendships which he highly valued, and had brought him into contact with the scientific members of kindred societies, from intercourse with whom he had derived much pleasure and profit. He should ever remember the great

## SECTIONAL REPORTS.—No. I: GEOLOGY.

The members of the Geological Section held their first meeting at the Potteries Mechanics' Institution, Hanley, on the 6th of April, 1876. A list of excursions for the season was drawn up, and Mr. John Ward, F.G.S., was appointed leader.

The first excursion took place on the 11th of May, when the gravel pits at TRENTHAM PARK were visited, Mr. Ward conducting. These pits occur in the Middle Bunter beds and show instructive sections. They dip westward at the prevailing angle of 30 degrees. They are composed of the water-worn *detritus* of primary rocks, and numerous Silurian and Carboniferous fossils are to be found in them. A good many years ago, Mr. W. Molyneux, F.G.S., put on record (Potteries Mechanics' Institution Magazine, vol. ii., page 136), the discovery of species of Asaphus, Tentaculites, Orthis, Bellerophon, Euomphalus, and other genera, in fractured pebbles of Lower Silurian sandstone. Numerous specimens of Upper Silurian and Carboniferous Limestone fossils have have been found; fragments of Millstone Grit also occur, but it appears to be doubtful whether coal measures proper formed part of the parent rocks. Agates, generally decomposed, are occasionally met with; so also is chalcedony, and jasper pebbles are abundant.

The ENDON VALLEY was visited on the evening of the 29th of June. The following account of the excursion appeared in the *Staffordshire Advertiser* :—"The section devoted Thursday evening to a study of the bold physical features of the country about Baddaley Edge and Endon, assisted by numerous outcrops, escarpments, and quarryings of the Millstone Grits and Yoredale rocks. Alighting from the train at Milton, they spent about half an hour at the station in conning over the map and sections of the geological survey, which to the student are simply invaluable, as showing at a glance the faulting and folding of the strata and the effects of denudation. The section found that in going from Milton to Bagnall, over Baddaley Edge, they would have a striking illustration of the manner in which outcrops of strata are shifted by faults. They passed from off the coal measures a little to the east of Milton, and then walked over successive outcrops of three beds of the millstone grit formation, namely, the first and third grits and some intermediate flags or shales. These beds have been faulted on Baddaley Edge, and the three outcrops have been shifted back half a mile to the east on the downcast side. The verification

the rock was actually seen *in situ*. At the village inn the leader afterwards read a short paper on igneous rocks, and exhibited specimens. The "dyke," it may be added, is to be seen at Hanchurch; it is quarried for road purposes, a mile or two to the south of Swinnerton; and underlies part of the high retaining wall at Norton Bridge station. A similar rock comes to the surface at Bushbury, and all these places are, speaking roughly, in a line with the igneous and basaltic masses of Rowley Regis—a circumstance which hints at a common origin and continuity beneath the surface.

Owing to a combination of untoward circumstances, among which may be mentioned, with much regret, the somewhat protracted indisposition of Mr. Ward, no more excursions of this section were held, though there is reason to believe that field-work was occasionally done by individuals and small parties. The winter, too, has passed without any of those evening meetings which formed an important part of the original arrangements. The section was convened for the 31st of January, 1877, to consider the best course to be taken with regard to the future, but only three members out of about forty responded to the invitation. This incident, though a discouraging one, need not be taken as conclusive evidence that the section has collapsed. Another meeting will probably be called for an early day, and the next annual report may be far more satisfactory than that now presented.

J. L. C.

## SECTIONAL REPORTS.—IV. ARCHÆOLOGY.

During the past year four meetings of the Section have been held, at which various topics of Archæological interest were discussed, and resolutions passed, advocating the preservation of the relics recently discovered in the Churchyard of Stoke-upon-Trent, and of the ancient crosses in Leek Churchyard. Letters were written to, and received from the Rector of Stoke, and Mr. Deacon, Vicar of Leek, on the subject. Excavations were carried out under the direction of the Section in Stoke Churchyard, and brought to light the following interesting relics, namely:—a rosary, with boxwood heads, connected by steel links, which appear to have been gilt; a perfect encaustic tile, and several fragments, several glass vials, perhaps lacrimatory, a drinking horn, &c. The foundations of the Chancel of the ancient Church were opened up and still remain uncovered, shewing the base weatherings, Priests' doorway on the south side, and other details. Previous to the sectional meeting

## TREASURER'S REPORT.

**The Treasurer in Account with the North Staffordshire Naturalists' Field Club.**

| 1876—7. Dr. | £ | s. | d. |
|---|---|---|---|
| To Balance in hand ... | 16 | 16 | 0 |
| Hanley Subscriptions ... | 20 | 10 | 0 |
| Newcastle „ ... | 16 | 10 | 0 |
| Stoke „ ... | | | |
| Burslem „ ... | 7 | 0 | 0 |
| Longton „ ... | 5 | 10 | 0 |
| Leek „ ... | | | |
| Subscriptions received by Secretary ... ... | 8 | 0 | 0 |
| Do. received by Treasurer | 3 | 15 | 0 |
| | £78 | 1 | 0 |
| To Balance ... ... | 24 | 8 | 10 |

| 1876—7. Cr. | £ | s. | d. |
|---|---|---|---|
| Allbut and Daniel for Periodicals ... ... | 7 | 8 | 8 |
| Dilworth, for Printing, &c. | 25 | 17 | 8 |
| Expenses of Stoke Meeting and Committee Meetings ... ... | 4 | 13 | 6 |
| Do. Newcastle Meeting... | 3 | 17 | 6 |
| Do. Burslem Meeting ... | 3 | 3 | 6 |
| Do. Hanley Meeting ... | 4 | 0 | 0 |
| Do. Summer Excursions | 3 | 10 | 8 |
| Postage of Committee Circulars ... ... | 0 | 2 | 10 |
| Telegrams and Carriage of Parcel ... ... | 0 | 6 | 9 |
| Subscription to Geological Record ... | 0 | 11 | 1 |
| To Balance in hand ... | 24 | 8 | 10 |
| | £78 | 1 | 0 |

## SECTIONS.

The following are the Sections which were ordered to be formed at the Annual Meeting, on March 16th, 1876, together with the names of their provisionally-appointed Heads :—

| | |
|---|---|
| Archæology | Mr. C. Lynam. |
| Astronomy | Mr. H. W. Hollis, F.R.A.S. |
| Botany | J. T. Arlidge, M.D., London. |
| Entomology | Rev. Thos. W. Daltry, M.A., F.L.S. |
| Geology | Mr. J. Ward, F.G.S.<br>Mr. T. Wardle, F.G.S. |
| Microscopy | Mr. R. Garner, F.L.S.<br>Mr. W. D. Spanton. |
| Zoology | Mr. J. Yates. |

## BOOK COMMITTEE.

At a Meeting of the above held at Mr. Garners house on Monday, March 5th, 1877,

It was resolved,

1. That the Periodicals belonging to the Club be kept at one place.
2. That the volumes be completed, where deficient, and bound at the expense of the Club.
3. That the Committee of the Stoke Athenæum be requested to accept the custody of the books, on condition that they be kept as books of reference, and that they be accessible to members of the Club.

These resolutions having been laid before the Annual Meeting on March 22nd, 1877, were adopted; and Mr. Garner reported that the Committee of the Stoke Athenæum would be willing to accept the custody of the books on the above terms.

# RULES.

I.—That a Club be formed under the title of "THE NORTH STAFFORDSHIRE NATURALISTS' FIELD CLUB," having for its object the practical study of Natural History in all its branches.

At the Annual Meeting on March 22nd, 1877, the words "AND ARCHÆOLOGICAL SOCIETY" were added to the title of the Club.

II.—That the Officers of the Club be a President, two or more Vice-Presidents, a Treasurer, a Secretary, Local Secretaries and Treasurers, and a Committee of Ten Members, three to form a quorum.

III.—That an Annual Meeting be held, not later than the month of March in each year, for the purpose of electing Officers for the ensuing year, selecting the places for Field Meetings, and transacting any other bnsiness which may be brought before it.

IV.—That five or more Field Meetings be held during the year, in suitable localities; and that timely notice of each be given to the Members by a circular.

V.—That Evening Meetings be held during the Winter months, at such time and place as the Committee may appoint, for the exhibition of specimens, and the communication or discussion of any subjects connected with the objects of the Club.

VI.—That Candidates for Membership shall be proposed and seconded in writing at any Meeting of the Club, and shall be elected at the next Meeting by a majority of votes by the Members present.

VII.—That a Subscription of Five Shillings yearly shall be paid by the Members, due on March 1st in each year.

VIII.—That the Committee may recommend as Honorary Members, Ladies or Gentlemen distinguished for their attainments in Natural History, who have in any way contributed to advance the interests of the Club.

IX.—That, after providing for the payment of all incidental expenses the funds shall be applied to the purchase of Books, Journals, &c., or in any other way the Committee may think likely to advance the interests of the Club.

X.—That the Papers which are read in the Society be published either in the Reports or in the Scientific Journals, and also abstracts of the same in the public Papers.

XI.—That the Committee have power to make Rules for the circulation among the Members of Books belonging to the Club.

XII.—No Rules of the Club shall be altered, except at a General Meeting called for the purpose, notice of which must be given at a previous Monthly Meeting.

## ANNUAL MEETING, MARCH 22ND, 1877.

# ADDRESS OF THE PRESIDENT, W. MOLYNEUX, ESQ., F.G.S., F.R.HIST.S.



The occasion of the Annual Meeting of the members of this Society is one affording very great pleasure and gratification to the President for the time being, from the circumstance that he finds himself surrounded and supported by so many familiar and willing workers and companions in the previous year's operations of the Society. There may be, and in all probability is, a feeling of sadness associated with the occasion, because the fact cannot be concealed that it is one of parting—the resignation, so to speak, of that direct personal identification with the Society, as a Society, which he has found to be possessed of so much interest and encouragement during his Presidential year. Possibly with some the occasion may be held as offering the indulgence of a special privilege, because I conclude he is at liberty to select as the subject of his address whatever he chooses that may be associated with either one or the other of the many departments of science, art, or literature upon which his mind may the more love to dwell, or his peculiar taste and habit of observation lead him to investigate. I confess, however, that in my own case, while recognising and appreciating to the fullest extent the sentiment embodied in the two first of these occasions, I can scarcely consider the choice of a subject on which to base my address, a special privilege at all: it has been to me a source of much anxiety, doubt, and perplexity; and, like the consequences to many others in a similar position, will, I fear, result in chagrin to myself and disappointment to you. For a long time I thought and was satisfied with thinking, that the water-supply of this county would be of all others the most suitable, and possibly useful, subject upon which I could speak; but gradually the convincing feeling came over me that you had had enough of the water-question, and that a subject which must necessarily treat largely with statistics, rock formations, and levels, was not the one you would a third time care to have inflicted upon you. It would, no doubt, do very well for a work of reference, or some special purpose, but for a general occasion, like the present, the less of water the better. I, therefore, but not until recently, abandoned the idea as one out of place. There were many other subjects, of course open; many severely scientific and full of technicalities; others connected with certain interesting localities with which we have become acquainted through the Excursions of the Society, and abounding in objects of both Natural History and Archæology; and again there was a broad field for the employment of one's energies in reducing to the space of half-an-hour the history of the germs which form the foundation, and constitute the great wealth and prosperity of the Pottery district. These, however, were merely passing ideas, because I soon remembered that many of these subjects had already been dealt with; that our indefatigable Honorary Secretary would, in his Report, deal with the others; and that I, therefore, had no alternative but to look elsewhere for my text. I scarcely know how it came about, but at a recent meeting of the Burton-on-Trent Natural History and Archæological Society, I had the pleasure of meeting Mr. Daltry, and was at once reminded by him of the duty incumbent upon me; and it

# CHEDDLETON CHURCH:—

A Paper read before the North Staffordshire Naturalists' Field Club, at Cheddleton, on April 20th, 1876, by T. WARDLE, ESQ., F.G.S.

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This interesting and well cared-for church is worthy of your close attention. Its architectural history has been well preserved, and its chief old features but little knocked about, notwithstadding these destructive days of so-called restoration, as at Leek for example, which until recently possessed, at the old Church, a chancel with good late 14th century windows on the south side, and a well-designed and unique perpendicular east window which have been wiped clean out, whilst under the architectural responsibility of G. E. Street, Esq., A. R. A., architect, to the loss of history and original art work. The porch of Cheddleton Church, with its vaulted roof, is very late, perhaps as late as the porch at Leek, to which it has some relationship. Its date may be about 1670, or even of the reign of George I. The window in the south aisle points to this, resembling in detail the work at Leek of that date, in character having lost its strictly Gothic feeling, and having features closely allied to the Jacobean type which succeeded it. The tower was built in Elizabeth's reign: it is a plain but substantial structure with the date of 1574 on the south parapet. The parapet or battlement is of the ordinary kind, consisting of alternate merlon and embrasure, not for shelter and shooting, like many ancient battlements, but simply for ornamental treatment. The stone of the tower is Millstone Grit, perhaps the best and most durable building stone in the country, and was probably obtained from Wetley Rocks. The rest of the church is also of Millstone Grit, except some portion of the restored work, which were unfortunately done in the softer and less durable stone from the Triassic beds at Alton. The masons who wrought at the church during its restoration were said to have strongly objected to work in the stone of the neighbourhood, owing to its hardness; and I suspect it cost the builder too much of his profit, as it doubtless took longer to do. I heard the builder say that tracery could not be wrought out of it, but that I proved to be a mistake, as you may see in the churchyard cross, which was wrought in London, and is of Millstone Grit selected by myself from the Roaches and Wetley Rocks quarries. How sad it seems that while we possess such abundant stores of splendid building stone – stone which the ancient church builders of the south and south-west counties would have been delighted to meet with, in place of the oolitic sandstones and limestones, some of which are cut up by handsaws—people should be running miles away to fetch soft and easy cutting stone for works intended to last for centuries—stone that is neither suited to the humid climate nor possessing that durability for which the Millstone Grit is noted. The nave roof is very good post-Reformation work of the same date as the tower; or a trifle later.

Mr. G. G. Scott, jun., is of opinion that the nave arches on the south side are probably 13th century. Those on the north side have been rebuilt at a later date, but you will notice the original respond or pilaster at the west

# THE WILD FLOWERS OF NORTH STAFFORDSHIRE:—

A Paper read before the North Staffordshire Naturalists' Field Club, at Newcastle, on February 22nd, 1877, by the Rev. D. Edwardes, M.A.

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Both time and knowledge would fail me to give anything like a general account of the wild flowers of all North Staffordshire. My object—to use a vulgar expression—is to beat about the bush, not for flowers, but for botanists. It stands to reason that it is the province of the North Staffordshire Field Club to investigate every field in North Staffordshire, and to register not only its monoliths, its cromlechs, its circles, and its tumuli, but also its trees, its wild flowers, its grasses, its ferns and its mosses. I would content myself with merely asking the question how is this to be done? and let the answer come from some one who could give it more conclusively. But as one such question cannot be spread over an indefinite number of pages, and as I have undertaken to read a paper which I am told is to occupy your time for the greater part of a quarter of an hour, I must offer a few general suggestions to the best of my abilities, which may be, or, after all, may not be to the point. In the first place some system must be adopted. Upon that all will agree. I think all experienced botanists will also agree that one man, however indefatigable, cannot botanise the whole of North Staffordshire. I can speak myself with some authority on this point. I have worked hard since I have come to Staffordshire, some 3½ years ago, and have been assisted by a band of faithful disciples, varying in number from 50 to 200. We have botanised, it is true, more or less, the whole country within a radius of about six miles around Denstone College; but that is not more than about sixty square miles in this county, and is less than one tenth of North Staffordshire. Still, in spite of the number and enthusiasm of my supporters, and the comparatively small part of the county we have explored, I am keenly sensible of how imperfect my list of wild flowers is as yet. It is too small, possibly by some hundreds, certainly by some scores. The number of wild flowers collected the first year was 134. In the second year—I begin the work over again every year—the number was 230. And at the end of the third year—that is last year—the number found was still under 300. Mr. Garner, in his Natural History of the County of Stafford, gives us the number of flowering plants in the whole of Staffordshire, 810. The difference between Mr. Garner's list and mine may be accounted for in the first place in the extent of country. He catalogues the flowering plants of the whole of Staffordshire as well as the immediate neighbourhood of the bordering counties, while my register

does not extend, as I have said before, to one-tenth of North Staffordshire alone. In the next place Mr. Garner frequently enumerates as separate species what I have rightly or wrongly rejected as mere varieties. Also he enumerates some flowers which are, as it appears to me, by this time extinct in the localities mentioned by him. Last, but not least, my list is doubtless very incomplete, and this is the point on which I intend principally to dwell. Assuming that it would be desirable to have a trustworthy list of our wild flowers, there is no means for obtaining it in existence except the North Staffordshire Naturalists' Field Club. Although I seem to myself to be frequently finding fault with Mr. Garner's Book, yet no attempt that I am aware of has ever been made that bears comparison with his. To botanise a whole country in the way Mr. Garner did is an undertaking beyond the capacity of man, as men are generally now. But even Mr. Garner could not compete with a society like the North Staffordshire Field Club. All that is wanted here is some definite plan. The country should be divided into separate allotments, and some one or more made responsible for registering all the wild flowers found in his or her allotment. And that each case may be tested, should any doubt arise, the actual place where each flower is found should be stated. Then a botanical bureau should be instituted, and a trustworthy list of the wild flowers of North Staffordshire should be drawn up for the guidance of posterity. A mere glance at a map of Staffordshire enables us to see at once that there is a peculiar facility for dividing the north half of the county into convenient districts, with a view to botanising it. It is true there may be some localities without an expert botanist; but there would be no difficulty in training young botanists, and surely there would be no difficulty in recruiting. All that is necessary to make botany almost a monomania during spring and early summer is to know the names of some fifty of the most common wild flowers, and use Bentham's Illustrated Handbook of the British Flora to trace out the names of the rarer ones. For those who are literally beginning there is a pretty book called 'A Year's Botany,' written, I believe, by a North Staffordshire lady, which, unpretending as it is, would guide the young beginner to the obtaining of a fair acquaintance with the ordinary wild flowers better than any book I know of. With Mrs. Kitchener's "Year's Botany," and Bentham's Illustrated Handbook of the British Flora, and the name and address of some mutual friend of wild flowers in case of a few puzzling specimens I could not conceive it possible for anyone to break down who sets to work in earnest. In the course of two or three years we should have a fair, perhaps a perfect list. Should misfortune befall the North Staffordshire Naturalists' Field club, this list would be a monument to it that no power on earth could destroy. But if this year is to be of any avail no time should be lost before we begin. It has been hitherto almost unprecedented in the number of wild flowers that have been out early. I came to Staffordshire on the 10th January, and every day for the rest of the month I picked up one fresh wild flower. I have no doubt but that I could have done more had I been acted upon by more grasping motives. As it was, I spent no energy. I merely made it a pleasant object of my daily walks to pick up a wild flower every day, and I failed not once. The following is a list of the 22 flowers I found: 1, Lamium purpureum (Red lamium); 2, Bellis perennis (Daisy); 3, Taraxacum dens-leonis (Dandelion); 4, Senecio vulgaris (Groundsel senecio); 5, Avena fatua (Wild Oat); 6, Poa annua (Annual poa); 7, Corylus avelana (Hazel; 8, Alnus glutinosa (Alder); 9, Ulex Europaeus (Gorse); 10, Fragaria vesca (Strawberry); 11, Mercurialis perennis (Perennial mercury); 12, Lamium album (White lamium); 13, Capsella Bursa-pastoris (shepherd's purse); 14, Crysosplenium oppositifolium (Golden saxifrage); 15, Brassica campestris (Field brassica); 16, Veronica agrestis (Procumbent

veronica); 17, Primula vulgaris (common primrose); 18, Geranium molle (dove's-foot geranium); 19, Stellaria media (chickweed); 20, Lolium perenne (Ryegrass lolium); 21, Ranunculus repens (Creeping Ranunculus); 22, Galanthus nivalis (snowdrop). The Field stachys, the Knotweed polygonum, the small nettle, and the Wall veronica, all very common winter flowers, my efforts to procure were in vain. The lesser celandine, the sweet violet, and the daffodil obstinately refuse to shew their petals.—In North Staffordshire the oak is the Queen of the forest, and we have—as far as England is concerned—the Queen of the Oaks in Lord Bagot's wood. But the oak, as far as I have noticed, in Staffordshire refuses nourishment to the mistletoe. I have met with only one instance of the mistletoe at all where it seemed to have grown independent of man, that was on the top of a tall poplar not far from Abbot's Bromley; but I have tried it at Denstone, and it grows both on the apple tree and on the rose tree, but not on the oak. What must strike a stranger on coming to Staffordshire, is the size of the common maple (acer campestre). Of course it is a miserable dwarf compared with the beautiful maple of Canada; but I am not aware that the English maples anywhere come up to those of Staffordshire. There is one thing about which I feel quite sure that Mr. Garner and everyone else who has written on the wild flowers of Staffordshire are wrong, that is when they pronounce the gooseberry ribes (Ribes grossularia) as not indigenous in Staffordshire. I feel no more doubt about it than I feel as to the blackthorn being indigenous. They are both found plentifully in nooks and corners where it is impossible to assign any reason for the hand of man bringing them there. The currant ribes are found in plenty on the banks of the Churnet; but rivers flow by gardens, and floods frequently break into gardens and carry their contents away, which may very well account for the currant trees along the banks of the Churnet. The Monk's hood is generally pronounced as not indigenous in England. I have found one plant of it in a wild nook not far from Denstone, where it is very difficult to understand how it came there, but of course accidents will happen in the family of Monkshood, and this solitary instance scarcely establishes its claim to British citizenship. Staffordshire is eminently a country of daffodils and primroses, and as regards the latter there is one feature to note which is by no means a common one. The Primula vulgaris and the Primula veris—the primrose and the cowslip—are to be found promiscuously without scarcity of either. It has been said by some botanists that they are never found together; it has been marked by all botanists that very seldom they occur in company. The grasses are particularly numerous in North Staffordshire, but I can scarcely speak with confidence as to the exact number I have collected. Many of the same species vary in appearance, and different species often resemble each other, so as sometimes to baffle analysis. With regard to ferns, as far as my experience of North Staffordshire goes, they are—to use an expression of old Waterton—easier to find in books than in bogs. Some time ago there was a dispute amongst botanists as to whether the Botrychium Lunaria was a Parasite or not. I found it recorded by Garner in the neighbourhood of Cheadle. I looked for it far and wide, but no trace of it could I find. Of the mosses of Staffordshire Mr. Garner gives a very complete list. It is quite possible that there is nothing more to do for this part of the cryptogamic botany than he has done. But in spite of Mr. Garner's gigantic efforts, as regards the rest of North Staffordshire botany, there remains yet much to be done, and until it is done it will remain a duty lying at the door of the North Staffordshire Naturalists' Field Club. It was with a view of pointing out this duty I craved indulgence to read this paper. I ought to apologise for its title, which is far too extensive, since the phenomena treated of under it form but a small portion of those it properly includes.

# LIST OF PLANTS FOUND NEAR DENTSONE IN 1876.

### Ranunculaceæ.

Anemone nemorsso
Ranunculus aquatilis
R. hederaceus
R. lingua
R. Flammula
R. Ficaria
R. [illegible]aricomus
R. [illegible]acris
R. [illegible]epens
R. bulbosus
R. philonotis
R. sceleratus
R. arvensis
Caltha palustris
Aconitum Napellus

### Nymphæaceæ.

Nymphæa alba

### Papaveraceæ.

Papaver Rhœas

### Fumariaceæ.

Fumaria officinalis

### Cruciferæ.

Cheiranthus cheiri
Barbarea vulgaris
Nasturtium officinale
Arabis perfoliata
Cardamine amara
C. pratensis
C. impatiens
C. hirsuta
Sisymbrium officinale
Allaria officinalis
Erysimum Cheiranthoides
Brassica Campestris
B. Sinapistrum
Draba verna
Thlaspi arvense
Capsella Bursa-pastoris
Lepidium campestre
Raphanus Raphanistrum

### Violaceæ.

Viola odorata
V. canina
V. tricolor

### Polygalaceæ.

Polygala vulgaris

### Caryophyllaceæ.

Silene inflata
Lychnis vespertina
L. diurna
L. Githago
L. Flos-cuculi
Sagina procumbens
Arenaria verna
A. serpyllifolia
A. trinervis
Stellaria media
S. Uliginosa
S. graminea
S. glauca
S. Holostea

### Hypericineæ.

Hypericum Androsæmum
H. perforatum
H. dubium
H. quadrangulum
H. pulchrum
H. hirsutum

### Linaceæ.

Linum angustifolium
L. catharticum

### Malvaceæ.

Malva rotundifolia
M. sylvestris
M. moschata
Althæa officinalis

### Geraniaceæ.

Geranium sylvaticum
G. pratense
G. Robertianum
G. lucidum
G. molle
G. pusillum
G. dissectum
Erodium cicutarium
Oxalis Acetosella

### Aceraceæ.

Acer campestre
A. Pseudo-platanus

### Rhamnaceæ.

Rhamnus catharticus

### Papilionaceæ.

Ulex europæus

PLANTAGINEÆ.

Plantago major
P. media
P. lanceolata

POLYGONACEÆ.

Rumex crispus
R. obtusifolius
R. sanguineus
R. Acetosa
R. Acetosella
Polygonum aviculare
P. convolvulus
P. Persicaria
P. Hydropiper

EUPHORBIACEÆ.

Mercurialis perennis
Buxus sempervirens

URTICACEÆ.

Urtica dioica

ULMACEÆ.

Ulmus campestris

AMENTACEÆ.

Almus glutinosa
Betula alba
Corylus Avellana
Fagus sylvatica
Quercus Robur
Salix alba
S. viminalis
S. caprea
Populus alba

CONIFERÆ.

Pinus sylvestris
Taxus Vaccata

AROIDEÆ.

Arum maculatum

ORCHIDACEÆ.

Orchis mascula
O. maculata
O. pyramidalis
O. conopsea
Ophrys muscifera

AMARYLLIDEÆ.

Narcissus Pseudonarcissus
Galanthus nivalis

LILIACEÆ.

Convallaria majalis (Bagot's wood)
Fritillaria Meleagris (Ilam)
Scilla nutans
Allium ursinum

IUNCACEÆ.

Juncus communis
Luzula pilosa
L. sylvatica
L. campestris

CYPERACEÆ.

Carex vulpina
C. panicea
C. paludosa

GRAMINEÆ.

Milium effusum
Anthoxanthum odoratum
Digraphis arundinaceæ
Phleum pratense
Alopecurus pratensis
A. geniculatus
Agrostis alba
A. canina
Aira cæspitosa
Avena fatua
Holcus lanatus
Hordeum sylvaticum
Triticum repens
Lolium perenne
Brachypodium pinnatum
Bromus sterilis
B. arvensis
Festuca elatior
Dactylis glomerata
Cynosurus cristatus
Briza media
Poa fluitans
P. annua
P. pratensis
P. trivialis
P. nemoralis
Melica uniflora
Arundo Phragmites

FILICES.

Polypodium vulgare
P. Dryopteris
Aspidium aculeatum
A. Filix-max
A. spinulosum
A. Filix-foemina
A. Trichomanes
Scolopendrium vulgare
Pteris aquilina