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History of the Berwickshire Naturalists' Club.

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PROCEEDINGS

OF THE

BERWICKSHIRE NATURALISTS' CLUB.

*Address delivered to the Berwickshire Naturalists' Club
at Berwick, 8th October 1903. By REV. THOMAS
MARTIN, M.A., Lauder.*

LADIES AND GENTLEMEN,

My first duty to-day is to thank you for the great honour which you have conferred on me by appointing me to the Presidency of the Club for this year. The offer came unexpectedly, and I accepted it with much diffidence. Encouraged, however, by the prospect of having Captain Norman, our Organizing Secretary, as my adviser and guide, I undertook the duties of the office in the hope that I would be able to attend all the meetings, and perform the work of President with fair efficiency. It was, therefore, a great disappointment to me to find that, owing to a complete breakdown in health,

I was unable to be present at the most important of the Field Meetings, and consequently could take no active part in the work and business of the Club. In the circumstances I felt that the honour of the office and the interests of the Club called for resignation of the Presidency, and I offered it through Captain Norman. But you added to the greatness of the honour, and placed me under deeper obligations of gratitude, by refusing to accept resignation, and by conveying to me your sympathy and good wishes for restoration to health. For all this kindness and forbearance I most sincerely thank you.

The disappointment of the past adds zest to the pleasure of meeting you to-day. While thanking all the members of the Club for their kindness, I am glad to have the opportunity of expressing publicly my sense of indebtedness to Captain Norman for all that he has done to make my position easy and free from anxiety in the circumstances. Only those who are intimately associated with him can fully appreciate the great services which he renders to the Club. The one Field Meeting which I was able to attend, that at Dalkeith and Newbattle Abbey, was a great success, and most enjoyable and instructive. So, I believe, were the other meetings of the season. The success and enjoyment of all these were due to Captain Norman's foresight, and to the excellent planning and arrangements which he had made beforehand. The Club is most fortunate in having him for its Organizing Secretary. We owe him gratitude for his labours in the past, and I am sure it gives us all pleasure to know that he is still to continue to be our leader and guide.

When Mr G. G. Butler, M.A., owing to the pressure of other work, resigned the post of Editing Secretary, it was remitted to the office-bearers of the Club to appoint a successor. I now congratulate the Club

on having secured the services of the Rev. J. J. Marshall L. Aiken, B.D., for this office. He accepted the post with some hesitancy, but we believe that we have hit upon the right man. He has already given evidence of great aptness for the part, and he promises to maintain the high standard of excellence in his work which characterized his predecessors.

I have received from G. P. Hughes, Esq., F.R.G.S., a full Report of the Meetings of the British Delegate to Association at Southport in September last, which he attended as delegate from British Association. Mr Hughes thanks the members of this Club. Mr Hughes thanks the members for the confidence which they have shown in appointing him to the office. The Report contains also interesting accounts of some mountaineering in Wales, and an ascent of Ben Nevis; but, as it will be read in full at a later stage of the meeting, further reference to it at present is unnecessary.

In addressing a meeting of the Berwickshire Naturalists' Club, which places Nature first in its researches, one has the feeling that the Subject of Address. subject ought to be something that falls within the scope of Natural History. But the Reports of the Proceedings of former years show that the work and researches of the Club are not confined to Natural History alone. The original aim of the work of the Club remains unchanged. Nature in all its varied aspects still holds the first place in the interests and researches of its members, and the Proceedings of every year give evidence of their diligence. We can reckon among our members distinguished geologists, zoologists, botanists, aboriculturists, ornithologists, and entomologists, who are constantly enriching the records of our Proceedings by their contributions. But the Club, without withdrawing in the least from this sphere of work, has in recent years given considerable attention to antiquarian, archaeological, and historical subjects. The late Dr Hardy gave

encouragement to, if he did not originate, this extension of the Club's operations. In 1886 the President for the year referred to the fact that the archaeology of the district was beginning to receive attention from Dr Hardy and several friends. The Club at that time had done little in this line, but a commencement had been made in collecting pottery and urns, stone, flint, and bronze implements; and the hope was expressed that ere long investigations would be made, which would throw some light upon the life and customs of the people of the distant past, who inhabited the country in which we are now discovering their dwelling places and burial grounds. The result has been that many members of the Club are now interested in local archaeology and history. The Field Meetings are most attractive to some when they include in the programme visits to old camps and peels and ruined castles, and abbeys and churches and historical places. The investigations and discoveries which give most satisfaction to these are the things which cast a light, even though shadowy, upon the manner of life and occupation and customs and religious observances of the people who once inhabited the forts and villages whose ruins crown so many hills, and whose ashes and mortal remains are found in the urns and cists so frequently unearthed.

The district of Lauderdale affords great scope for all varieties of minds and likings found in any meeting of the Club. The entomology and ornithology and botany of the district have been duly chronicled by Mr Andrew Kelly, Lauder, and Mr William Shaw, Galashiels, in Mr A. Thomson's excellent "History of Lauder and Lauderdale." The naturalist will find enough in these lists to attract his attention. Yet I have noticed that when the Club has visited this district some of the members have shown most interest in antiquarian and archaeological subjects. Lauder itself, as an ancient Royal Burgh—with its unique Burgess-System and Common Lands—has always excited

interest. It has been referred to on several occasions in the Proceedings of the Club; and it has occurred to me that I might in this Address supplement what has already been stated there, by giving a fuller and clearer statement of the position of Lauder as a Royal Burgh, and of the Rights and Privileges and Common Lands which its Burgesses possess.

It is universally admitted that Lauder was a town of considerable importance in the reign of **De David I.** How it had grown up, and how **Morville's** it had attained the place of eminence which **Deed of Gift.** it then occupied, are questions which cannot be now answered. It is proved by Chartularies of Monasteries and title deeds of estates, that the town and its lands on the Leader were granted by King David to Hugh de Morville, Constable of Scotland, who founded Dryburgh Abbey about 1150, and died in 1162. He was succeeded by his brother Richard, who gave a grant of the lands of St. Leonard's, and certain pasturages, to the Brethren of the Hospital of Lauder. This charter, which was given about 1170, shows that Lauder was then a kirk-town, and must have been a place of considerable importance. It had then its church and its bailies, its mills and its smithy, its lands and its pasturage. By this charter De Morville gave to the Brethren of the Hospital all ecclesiastical rites free, except the Sacrament of Baptism, if there were any children to baptize, for which they had to present to the church at Lauder yearly one pound of incense unadulterated. He gave them also the right to grind their corn at his mill at Lauder, free of fee. His smith at Lauder was to mend their carriages or waggons, and forge everything of iron belonging to these; and if he refused to do so, he was to be dealt with by his bailies at Lauder. The existence of these things at Lauder shows that Lauderdale at this period had made some progress in agriculture, and that the people were in an advanced state of civilization.

It seems also from the existence of bailies that Lauder was then a burgh. Tradition, founded probably on this charter, has led to the **Burgh of Regality.** belief that it was then a Royal Burgh. But though it was then a burgh, it had only the position of a Burgh of Regality. Its superior was, not the king, but De Morville who at the time was over-lord of Lauderdale. This charter then proves that Lauder was not a Royal Burgh in the 12th century, and it may also be granted that there is not sufficient evidence to prove that it had attained this position at the close of the 13th century. At the same time Lauder was a town of great importance at this period. The over-lord of Lauderdale then was John Baliol, who was recognised as King of Scotland by Edward, King of England. Baliol had possessions in the district through his mother, and the inhabitants of Lauderdale and Lauder must have been interested in the great national events in which their over-lord was so deeply concerned. History does not inform us what part they took in the struggle, or what position they adopted when Baliol was dethroned by King Edward. We know, however, that in 1296-7 Edward came to Scotland, and, according to the "Ragman Rolls," he was twice at Lauder in the course of that journey. During this visit a number of burghs are mentioned, whose magistrates and burgesses took the oath of allegiance to Edward; but Lauder is not in this list. This fact has been adduced as conclusive proof that Lauder was not then a Royal Burgh. But it could also be used to prove that Lauder was not a burgh at all, yet we know that it was at least a Burgh of Regality long before this period. The supremacy of Edward was acknowledged by "William le Brown of Laweder, William le Fiz Aleyn le Clerk of Loweder, Robert del Hospital, and Rauf Master of the Hospital of Laweder." From this we may infer that Lauder, though a burgh, was then without bailies. Possibly Baliol's

connection with the district and the burgh may account for that at this time. It is possible that the burgh suffered from the displeasure of Edward, as well as the dethroned and imprisoned king, who was its late superior.

In the 14th century we have evidence that Lauder had attained the dignity of a Royal Burgh. **Royal Burgh.** Early in that century William of Lamberton, Bishop of St. Andrews (1297-1328), granted a Charter of Confirmation to Dryburgh Abbey, which secured the abbey in the possession of "the Church of Mertoun with the adjacent land, the Church of Saweltoun with the adjacent land, the Church of Laweder with the adjacent land, &c., . . . and two burgess-ships in the town of Lauder (duo burgagia in villa de Laweder)." It is noted that in this charter all the subjects given are carefully described, and the description of two "burgess-ships"—or "burgess-acres"—in Lauder is proof that Lauder was then a recognised burgh, and probably a Royal Burgh. The late Mr Robert Romanes of Harryburn, in referring to this matter in notes which contain the result of very careful inquiry, came to the conclusion that in all likelihood Lauder was made a Royal Burgh by Robert Bruce. This conclusion receives support from the fact that Bruce, after retaking Berwick from the English in 1318, immediately proceeded to strengthen his hold upon the Borders. In doing so he could not overlook Lauder, where the personal influence of Baliol must once have been strong. In "Caledonia" it is stated that King Robert granted Lauderdale to his loyal friend and supporter, Sir James Douglas. In 1319 he gave to one of his friends the lands which belonged to "Allan la Zouche and John Baliol." Some of these lands were in Lauderdale. These gifts are proofs that Bruce did strengthen his position in Lauderdale by placing his own supporters in the district where Baliol formerly had authority and power; and they lend support to the view that he completed the process by creating the

town a Royal Burgh, and thus deprived Baliol of all claims to authority and territory in that part of the country. If this took place immediately after taking Berwick, the burgh may have received a Royal Charter about 1318. In further proof of Lauder being a Royal Burgh before the close of the 14th century, we can refer to an entry in the "Chamberlain Rolls" in 1366. There we find the following entry under the title "Cont' buco b'g non compen." "Et de liiis. iiijd. de Lawedre. Et de iiij. li. vi. de Renfrew. Et de x. li. vjd. de Irwyne." In quoting the above in his notes Mr Romanes remarks:—"It is true that places which were not burghs, or at all events not Royal Burghs, are named in this and similar entries; but Lauder, as a place apart from Lauderdale, did not appear in the 'Chamberlain Rolls' before 1366; and it is not conceivable that, so long as Lauder was merely a village, and not a Royal Burgh, the Exchequer would have a claim against the place for '53s. 4d.'" Frequent reference is made to Lauder as a burgh in the 15th century, and before the Charter of Novodamus was granted. In the "Lauderdale Writs" reference is made to "tenements in the Burgh of Lauder" in 1449. In the year 1477 John Smith is mentioned as "Baillie of Lauder." In 1494 Lauder appears in the Exchequer Rolls. In 1502—in the reign of James IV.—a Charter of Novodamus was granted. That charter sets forth that:—"The first charter's evidents and letters of foundation and infestment of our Burgh of Lauder and liberty thereof, made and granted by our noble progenitors to the burgesses and community of the said burgh, were destroyed and burned by the ravages of war and fire and otherwise, whereby the exercise of merchandise ceased among them to their great hurt and the ruin and prejudice of the commonweal and liberty of our foresaid burgh, and to our no little loss concerning our customs and burgh mails and the duties owing to us furth of our foresaid burgh, unless a remedy can be forthwith provided.

We therefore, have of new infest, given, granted, and confirmed, and by this our charter, infest, give, grant, and for us and our successors for ever—confirm to the burgesses and community foresaid our said Burgh of Lauder, in a free burgh for ever, with all and sundry lands, annual rents, and possessions whatsoever belonging thereto, with power to the said burgesses and community to break up and plough their common lands for their greater profit and advantage; also yearly to elect bailies and other officers necessary for the government of the said burgh, and to have therein a cross with a weekly market on Saturday. To have and hold our said Burgh of Lauder, with all and sundry lands, annual rents, and possessions whatsoever belonging thereto, to the said bailies, burgesses, and community thereof, and their successors, of us and our successors in free burgage, fee, and heritage for ever, by all these rights, marches, bounds, and divisions, as they lie in length and breadth, in lands, rents, pastures, moors, marches, with free passage and public roads leading to and from our burgh," etc.

This charter is a Novodamus. It is granted for the reason that the former charters which confirmed Lauder in its special rights and privileges had been destroyed. What do we learn from this charter, which was renewed in 1633, regarding the date of the creation of Lauder as a Royal Burgh? Certain facts stated most explicitly are, (a) that the Royal Burgh had charters long before 1502; (b) that the original charters had been granted by the king's "late most noble progenitors," and not by representatives of royalty; (c) that the charters were granted to "the burgesses and community of the said burgh," and not to an over-lord or superior; (d) "that these charters were destroyed and burned by the ravages of war and fire and otherwise"; and (e) that the consequences which followed the destruction of the charters and the ravages of war and fire were ruinous to the

burgesses and the burgh;—"the exercise of merchandise ceased among them to their great hurt, and the ruin and prejudice of the commonweal and liberty of our foresaid burgh." In addition to this, the king's revenue also suffered "no little loss concerning our customs and burgh mails, and the duties owing to us furth of our foresaid burgh." To restore the right and liberties of the burgh, and prosperity to the burgesses, and also to restore the revenue from duties and mails which the king and his progenitors had received from the burgh, the Charter of Novodamus was granted in 1502. These facts are evidence that Lauder had been created a Royal Burgh at a much earlier period, and strongly support the view that it received its charter in the 14th century, and probably from King Robert Bruce. Owing to wars and interference with trade and merchandise during troublous times, Lauder was often impoverished, and this may account for its not being mentioned earlier or more frequently in the "Chamberlain Rolls." We know, at least, that in later times it was for this reason exempted from payment, and from sending a representative to Parliament.

Neither the original charters nor the Novodamus gave anything new to Lauder. These did not **Antiquity** give to the burgesses and community for **of Rights.** the first time lands and possessions, and rights in an extensive commonty. Lauder appears before us in history, in the 12th century, a strong and vigorous community which possessed arable lands and meadows, and extensive common-lands. From whom they acquired these possessions or how they acquired them cannot now be discovered; but that they did possess them, before King David gave the "superiority" of the town and its lands to Hugh De Morville, is a fact. The over-lordship of De Morville did not infringe the rights of the inhabitants or disturb their possession of the lands. In the charter given by Richard De Morville (about 1170)

conveying lands and pasturages to the Brethren of the Hospital of Lauder, there was no interference with the rights of the community of Lauder. He gave to the brethren lands and rights to common pasturage on Pilmuir, and all the advantages enjoyed thereon by the people of Pilmuir and Trabrown; but there was no interference with the common lands and pasturage of Lauder, though these lay between the lands of St. Leonard's, given to the brethren, and Pilmuir and Trabrown, where they had the right of pasturage. In none of the titles to the lands which surround the common-lands of Lauder is there found any evidence of any part of the community ever having been included in their boundaries. It seems evident, therefore, that in Lauder community we have a possession of lands which had its origin in pre-historic times. These lands were not given to the people by any charter. The charter to the burgh—as a Burgh of Regality or a Royal Burgh—did not interfere with their rights to their possessions, but confirmed and established rights and customs which were then in existence, and which exist in the present day.

In a short Address I cannot enter into questions connected with the origin and growth of such a community. I must content myself with giving an account of the “rights and privileges” of the burgesses of Lauder, and their “rights” to the possession and enjoyment of the community or common-lands. In order to insure accuracy in my account I use freely “A Statement of Facts for the Royal Burgh of Lauder, and Magistrates and Councillors thereof.” This document was drawn up in 1865, in defence against an action brought by some persons who asserted the “right” of *all* the inhabitants of Lauder to share in the common-lands, which at present is enjoyed fully by resident burgesses, and in part by proprietors of burgess-acres and widows of burgesses. After referring to the charter of the burgh which confirms

a heritable right to the property held by the defenders, the statement sets forth the following facts:—

There exists, and has for many centuries existed, a community of burgesses within the said burgh of Lauder. These burgesses are not traders, nor have they any special trading privileges within the burgh, but they are exempted from the petty customs leviable from non-burgesses upon merchandise, animals, and carts coming into the burgh; and they have also valuable rights in the foresaid burgh common. No person can be admitted to the community of burgesses, or can retain his membership of that body, unless he be a proprietor of what is called a "burgess-acre." Of these burgess-acres, which vary in extent from $1\frac{1}{2}$ to 3 imperial acres, there are in all 105, lying within the precincts of the burgh. The burgh itself has no interest in, or connection with, these acres; but the property of at least one of them is an indispensable qualification for burgess-ship, and the enjoyment of the privileges which it confers. In all the titles to the said "burgess-acres," the "acre" or portion of ground therein specially described is, and has for centuries past been conveyed, "*together with the out-field and fee-land parts thereto belonging, as the same shall happen to fall by cut and cavil through the common hills and breaks of the burgh, and all the pertenents and privileges thereof,*" or, at least, together with rights and privileges expressed in terms nearly similar to those above quoted.

The portion of the burgh property known as the burgh common, or commonty, has from time immemorial been occupied and possessed by burgesses, widows of burgesses, and proprietors of burgess-acres, in manner after specified. Part of said common is laid off into what is called "hill-parts," and cultivated by the proprietors of burgess-acres; and the remainder is occupied as a commonty and for pasturage merely. Upon the part of

the common devoted to pasture, each burgess, or widow of a burgess resident in the burgh, is entitled to graze a certain number of sheep and cattle, the number being from time to time fixed by the Town Council. At present (1903) burgesses are entitled to pasture two cows and twenty sheep apiece, whilst resident widows are each entitled to the pasturage of one cow and thirteen sheep. A cowherd and a shepherd are employed for the common behoof of those who use the pasturage, from whom the magistrates and council accordingly levy such an annual assessment, in sums proportioned to the number of animals pastured by each, as suffices to pay the wages of the cowherd and shepherd, and every other expense connected with the animals and their pasturage. The magistrates and council at the same time levy, by a separate assessment, from the persons and in the proportions foresaid, such sums as they consider adequate and reasonable, in name of "grass mail."

That portion of the burgh common which is laid off for "hill-parts" is, and has been from time immemorial, dealt with by the magistrates as follows:—Every proprietor of a burgess-acre, whether he be a burgess or not, has, by virtue of his title to said acre and outfield and fee-land parts thereof, right to a "hill-part" of the common, being a portion of the common marked off for cultivation during such number of years, with such a rotation of cropping, and under such provisions for the improvement of the land, as the council may fix. When these "hill-parts" are first laid off, a certain portion is marked out for the purpose, and the owners of burgess-acres are then applied to, in order to ascertain whether they intend to claim their privilege of having a "hill-part" allotted to them. Upon the number of "hill-parts" being ascertained, and upon the claimants subscribing the conditions of cropping, etc., prescribed by the council, the portion of the hill already marked off is cut into the requisite number

of lots or "hill-parts," and each proprietor has his part or parts assigned to him by lot. After the portion of the common thus sub-divided has been cultivated for the term of years prescribed, it is laid down in grass, and another portion of the common is then marked off, divided among the proprietors of burgess-acres, and cultivated by them for another rotation, at the end of which the same process is repeated. The extent of the common is over 1700 acres. More than 500 acres have been at some time or other under cultivation as "hill-parts." A portion of this, averaging nearly 100 acres, is under cultivation year by year. The owners of burgess-acres, and burgesses, may claim one "hill-part" for every "acre" owned by them, and the "hill-parts" may be let under the provision that they are cultivated on the conditions laid down by the Town Council. The right of grazing on the remainder of the common is confined to resident burgesses and resident widows of burgesses, and the right is not transferable by letting or otherwise.

In recent years attention has been directed to the "famous burghal community of Lauder" by Mr G. L. Gomme in "The Village Gomme. Community," and by Sir Henry Maine in "Village Communities." Mr Gomme in his reference and remarks shows very imperfect knowledge of the facts regarding this "famous" community. He asserts, on the authority of the local reports of the municipal corporation commissioners, that "the earliest recorded number of burgesses at Lauder was 315. A new division took place in 1744, and the number then was 105. In 1816 there were 48. In 1835 there were 25." The late Robert Romanes, town clerk of Lauder, has stated in his notes that "there never were 315 burgesses at one time, and there was no new division in 1744. There never could be any such division of burgesses, and there was no re-division of burgess-acres.

There never were in Lauder at one time more than, if so many as, 105 burgesses. We can safely say that since Lauder was created a burgh, and, so far as records show, there never were more than 105 burgess-acres, and the possession of a burgess-acre was always a necessary preliminary to admission as an ordinary burgess, so that it is not possible that there could have been at any one time a larger number of burgesses than there were burgess-acres. Mr Gomme has been greatly misled in what he states. The figures for the years 1816 and 1835 are inexplicable as applied to burgess-acres, and those of 1835 cannot refer to the number of burgesses."

Presuming that his figures were correct, Mr Gomme sees "the community in process of decay," and quotes, with approval, the view that "it may happen that the whole may ultimately fall to one proprietor, who will then become the corporation." But in coming to this conclusion he has overlooked some important elements in the case. The present community system, which has existed for centuries, is safeguarded by several powerful checks from falling quickly into decay, as some communities with small holdings and common rights have done. One is the law which prevents a sub-division of the lands. Each burgess-acre must be entire, and must be owned by one person. The tendency for any person to acquire more "acres" than one is checked by the fact that an increase in the number of "acres" held does not give a corresponding increase of grazing rights. Another check exists in the power possessed by the Town Council to regulate the assessments for grazing "without any restriction except the necessities of the burgh and the value of the grazings." Possibly, if it ever happened that the whole of the burgess-acres became the property of a few persons, or of one, the Town Council might discover that the necessities of the burgh required much larger expenditure than they do at present, when most of them "are personally liable to pay the assessments imposed."

Sir Henry Maine, in his reference to Lauder, says:—"It may be doubted whether a more perfect example of the primitive cultivating community is extant in England or Germany."

Sir Henry Maine's Ideal. On this account it has a special interest for the archæologist and the historian.

It exists in the 20th century a modern, up-to-date burgh and community, yet enjoying full possession of rights and privileges more ancient than those conferred by kings, and conserving customs which had their origin in times before the history of the country began to be written. The formation of this community leads us back to a time when the untutored and savage inhabitants of the district had been drawn from the simple but rude methods of living by hunting and fishing, and had come under the influence of a civilization which taught them to seek a better life by living together and cultivating peacefully the lands which lay open for them to possess. It was a forward step in their development. Living together as members of a community, cultivating the land under the authority of a recognised head, and observing rules to advance the common welfare, are the first stages in the formation of settled government, and lead on to the building up of a society based on the feeling of common brotherhood and universal goodwill.

It is now my sad duty to announce the names of members of the Club who have died since the annual meeting in October last. I am indebted to **Obituary of the year.** Mr Bolam for information regarding these, and for this, and his help in other matters, I most sincerely thank him. I understand that special notice will be taken of some of the deceased in the "Proceedings" of the Club, so I do little more than mention their names here:—Mr Middleton H. Dand, of Hauxley, had been a member of this Club for more than 44 years, and passed away at the ripe age of 91 years.

Mr D. McB. Watson, Hawick, had been associated with the Club for over 27 years, and took a keen interest in the work of this Club, and in kindred work in Hawick. Mr Wm. Wilson, Berwick, was connected with the Club for 25 years. Dr Robertson, Otterburn, had been a member for over 25 years. When the Club visited that district he read an interesting paper, which was printed in the "Proceedings." Mr James S. Mack, Coveyheugh, was well known in Berwickshire for the interest which he took in county affairs. He had been a member of the Club for 22 years. Dr Stewart Stirling, Edinburgh, joined the Club in 1887. He attended the meetings, and was much interested in its work. I regret to have to include in this list the name of Mrs Barwell Carter, Berwick, the daughter of Dr Johnston, founder of the Club. She was an honorary member, and kept up an intimate connection with it. For many years the members of the Club, at the October meeting, visited her house in Woolmarket to inspect the valuable collections of Dr Johnston, which were kept there, and to inscribe their names in a book which she kept for the purpose. The Club has sustained a great loss in her death, and many of the members will miss a valued personal friend.

The pleasant duty now devolves on me of appointin^g
Mr George G. Butler, M.A., Ewart Park
Election of Wooler, to be President of the Club for
President. next year. Mr Butler has served the Club
well as Editing Secretary, and I am sure
that his appointment will meet with the approbation of
its members.

Reports of the Meetings of the Berwickshire Naturalists' Club for 1903.

EILDON HILLS AND DRYBURGH.

THE FIRST ORDINARY MEETING for the year (1903) was held at Melrose, on Wednesday, 27th May, when there assembled a goodly number of members, among whom were noted:— Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, B.D., Editing Secretary; Mr George Bolam, F.Z.S., Treasurer; General Boswell, C.B., Melrose; Mr Wm. B. Boyd, Faldonside; Mr G. G. Butler, Ewart Park, Wooler; Mr T. Craig-Brown, Selkirk; Mr J. Hewat Craw, Foulden; Mr J. T. Craw, Whitsome Hill; Mr Wm. Dunn, Redden, Kelso; Dr R. Shirra Gibb, Boon; Mr Arthur Giles, Edinburgh; Mr J. G. Goodchild, F.G.S., Edinburgh; Provost Hilson, Jedburgh; Mr Walter Laidlaw, Jedburgh; Rev. James Steel, D.D., Heworth, Newcastle; Mr James A. Somervail, Broomdykes; Mr Alexander Thomson, Galashiels; Mr John Turnbull, Galashiels; and Mr Joseph Wilson, Duns. The President was unable to take part in the excursion on account of indisposition.

On the arrival of the trains from East and West, the party, under the guidance of the borough engineer, **Burg-jo.** Mr Alexander Soutar, set out to climb Mid-Eildon, following a dried-up water-course which brought them to a detached hillock, known in the neighbourhood as Burg-jo, whose origin and purpose have for long been matter of conjecture, some inclining to the belief that it is a work of art, which had been used as a fortified

place, though no ramparts or ditches are traceable; others supporting the theory that it is the result of the action of water, forcing its way outward and causing a landslip, which has in time been clothed with the natural grasses of the adjacent hills. Occurring as it does at the junction of the Upper Red Sandstone and the Silurian formations—the point at which such an outlet of water might naturally be looked for—it seems as if the latter were the more probable explanation, confirmation of which may be found in the existence of a stream derived from the neighbourhood, though now enclosed in pipes, which supplies the farm of Dingleton Mains, in the near vicinity.

Ascending to the ridge connecting the North-eastern and Middle Peaks, and halting on the plateau on the Southern slope, the members enjoyed the extensive view of which Sir Walter Scott affirmed:—"I can stand on the Eildon Hill, and point out forty-three places, famous in war and verse," all of which must have been discernible on such a day of brilliant sunshine and superbly clear atmosphere. Here Mr Goodchild gave a short and interesting account (which forms a paper in the Transactions of this year) of the structure and leading geological features of the hill, tracing, by means of diagrams, the highly convoluted nature of the Silurian base, on which is deposited the Old Red Sandstone, and through which has intruded an irregular sheet of Trachyte or Porphyritic rock, capable of resisting climatic and chemical action, which, on account of its close and fine-grained character, has helped to "water-proof" and preserve these less durable layers. The striking configuration of the Eildons was due, he explained, to the capping of this harder rock upon the softer sandstone, and to the long-continued action of an ice-sheet, 2000 feet in thickness, and weighing 25 tons to the square foot, moving in a North-easterly direction, and wearing the clefts which give to the hill its remarkably picturesque appearance. Specimens of this eruptive rock abound upon the hillside, and were shown to possess the rough or harsh feeling (occasioned by the abundance of minute vapour or gas pores) which supplies it with its distinctive nomenclature.

On this Southern plateau there are traces of outworks connected with a fortified camp or town, situated **Pre-historic** on the North-eastern peak of the hill, and **Fortress.** overlooking the great valley of the Tweed.

Indications of an ancient roadway, connecting this easy pass from the South to the centre of Scotland, and forming apparently a continuation of the Northumberland Watling Street, have been traced on the side of the hill, near which have been discovered remains suggestive of the establishment of a Roman station; and it may have been, in view of the necessity of rendering this passage secure, that such an apparently inconvenient and exposed position was chosen for the planting of the Eildon hill-fort. Time did not permit of the members examining the camp particularly; but from an exhaustive paper on the subject, contributed to the Society of Antiquaries,* by David Christison, Esq., M.D., Hon. Secretary, may be learned the following facts. The peak in question has a fairly level space on the top, with several natural terraces, and accommodation for dwellings; and commands a view of the valley of the Tweed, flowing 1150 feet below, as the river alters its course from East to West, and winds round it, at a distance varying from a mile to a mile and three-quarters from the summit. The lines of defence, nearly a mile in length, encircle the hill, and are distinctly visible at a distance. "In structure they consist for the most part of three parallel terraces, constructed one above another on the face of the hill, though the upper one required but little making, as it generally runs where a steep slope eases off to a gentle one, and in taking the edge of the North and South plateaux it required no making at all. The width of the lower terraces varies somewhat, but rarely exceeds 7 or 8 feet. Of course these terraces do not constitute a defence in themselves, and there can be little doubt that they were palisaded at the edge, because there are no remains of earthen mounds, and, indeed, there is no room for them: neither is there any debris indicative of stone walls, and although many parts of the hill are stony, the stones are small, and unsuitable for building." The space enclosed is circular in shape, as shown upon the Ordnance

* Vol. xxviii., pp. 112-9.

Survey Map, and is entered on through 7 breaks in the lines of defence, the leading 2 being at the East and West ends of this great Southern plateau. The latter is the more accessible, "being only 100 feet above the broad and nearly level neck which connects the summit on which the fort stands with the higher Eildon, and is approached from the neck by a gentle slope. The Eastern entrance is close under the summit-scrée, and its defences on the North side are now represented by three short, low, broad, stony mounds, which run from it to the foot of the scrée, and on the South by a scarp about 25 feet high, with a sharp crested mound at its foot, which is prolonged in front of the entrance, apparently to include a feeble spring there. Another stronger spring, covered and padlocked, is near this on the North side of the entrance, and the two outer mounds on that side bend inwards, so as to flank and exclude it from the lines; but this may be due to modern changes, when the spring was utilised. As this entrance is on a slope, the three mounds rise one above the other, those in the rear commanding those in front." The space enclosed may be divided into two portions, the former consisting of slopes and plateaux lying between the lines of the citadel, and the latter containing the citadel itself, which is stationed on a rectangular ridge, measuring about 800 by 400 feet, which comes in contact with the outer lines at their greatest elevation. Signs are not wanting also of dwellings within the enclosure, in many circular or horse-shoe shaped excavations, which must have consisted, not of stone, but of some perishable substance, as no stony debris is anywhere to be seen.

After according a hearty vote of thanks to Mr Goodchild for his instructive address, the party separated for the afternoon, a section to range the hill and the adjoining woods of Eildon Hall, permission to do so having been kindly granted by His Grace the Duke of Buccleuch, and another to revisit the burying-place of the great poet of the Borders. The route of the latter lay by Newtown St. Boswell's, and across the suspension bridge which spans the Tweed

Dryburgh. at one of its many romantic windings. On its Northern side stands a temple to the Muses, erected by the eleventh Earl of Buchan, on which is erected

a statue of James Thomson, the poet, who is said to have written his "Winter" in this neighbourhood. A little further on, the entrance to the Abbey grounds was reached, where the party enjoyed a quiet and profitable ramble amidst its stately ruins, conducted by the courteous custodian of the grounds. Such full and interesting accounts of the building, its history, dimensions, and architectural features, have been already given in the Transactions of the Club* that it seems superfluous to refer to them particularly. Suffice it to say that though, as a whole, the structure has suffered greatly through the ravages of war and fanaticism, enough still remains to warrant the belief that to Sir Hugh de Morville and Beatrix de Beauchamp, his wife, who in 1150 founded the abbey and church of St. Mary of Dryburgh, and assigned it to a convent of Praemonstratensian Friars, must have belonged a remarkable artistic faculty and spirit of devotion, which led them to lay, on the banks of this noble river, the foundations of a fane whose gradual extension and embellishment have won for it such notoriety and admiration.

Among objects of special interest was pointed out the chapel of St. Modan, a missionary saint of the eighth century, opening to the cloisters, and containing the remains of David Stewart Erskine, eleventh Earl of Buchan, whose history and influence are of deep interest to archæologists and antiquarians. Born in 1742, and educated in Glasgow University, he entered the army, and having attained the rank of lieutenant was appointed secretary to the British Embassy in Spain. On the death of his father, however, he returned to Scotland, devoting himself to the education of his younger brothers; and being specially addicted to the study of the history, literature, and antiquities of Scotland, and distressed because of the lack of public sympathy in its promotion, he founded, in 1780, the Society of Scottish Antiquaries, of which the first volume of Transactions appeared in 1792.

* 1863, Vol. v., 4; 1871, Vol. vi., 182; 1886, Vol. xi., 339; 1896, Vol. xvi., 28.

One dare not pass unnoticed altogether the ruins of the church attached to these more ancient buildings, were it only to express our sense of gratitude that, in spite of the stormy past, there still remain fragments of this monument of piety to supply us with lines, however meagre, with which to trace the plan pursued by earlier beautifiers of the House of God, not the least of which is St. Mary's aisle, the burying-place of the Haliburtons, and through them of Sir Walter Scott, of whom it has been said:—"When the swollen Tweed raves as it sweeps, red and broad, round the ruins of Dryburgh, you think of him who rests there—the magician, asleep in the lap of legends old, the sorcerer, buried in the heart of the land he has made enchanted."

After the Visitor's Book was signed in the name of the Club by Captain Norman, the party retraced their steps to St. Boswells, where dinner was served in the Railway Hotel, under the Presidency of Rev. Thomas Martin, M.A., Lauder.

After dinner a number of interesting photographs, illustrative of stones and inscriptions discovered in the neighbourhood of Jedburgh, were submitted by Mr Walter Laidlaw, who was cordially thanked by the President.

ROSS LINKS.

THE SECOND MEETING of the season was held at Belford, on 25th June, and was attended by the following:—Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, Editing Secretary; Mr George Bolam, Treasurer; Mr Wm. B. Boyd, Faldonside; Mr J. Cairns, Alnwick; Mr J. T. Dand, Warkworth; Mr Arthur Giles, Edinburgh; Mr A. M. Hardie, Newcastle; Mr J. Lindsay Hilson, Jedburgh; Mr H. Rutherford, Fairnington; Mr T. B. Short, Berwick; and Mr Jas. A. Somervail, Broomdykes.

On assembling at Belford Station the party was conveyed by brake to Ross Farm, where they divided **Ross Links.** into sections to explore the well-known links, situated between Fenham Flats, a long stretch of muddy sand lying between Holy Island and the mainland, and Budle Bay to the South-east on the way to Bamburgh. The day proved threatening, and little progress had been made before a heavy thunderstorm burst over the sea, accompanied by vivid lightning and a downpour of rain. In spite of the disagreeable change in the weather, however, the members pursued their course among the sandy dunes and hollows, which afford ample scope for botanical research. It was matter of regret that owing to the unusually backward state of the season, a number of plants, including *Psamma baltica* (for which a new station was discovered here by Mr A. H. Evans and Captain Norman a few years ago) a stout coarse grass closely allied to the better known *P. arenaria*, but with a slightly pinkish panicle, could not be identified; but at the close of a patient and careful investigation, a novelty was reported in *Anagallis tenella*, familiar to visitors to Holy Island. *A. arvensis* was found in unusual abundance and vigour, its scarlet flowers being conspicuous amid its

somewhat colourless surroundings. A feature of the links is the luxuriant growth of Willow (*Salix repens*), which covers large portions of the abounding sand. Birds were conspicuous by their absence, though the Sheldrake (*Tadorna vulpauser*) and Meadow-pipit (*Anthus pratensis*) were observed.

On reassembling at Ross Farm, the members were hospitably entertained to tea by Miss Blenkinsop, to whom Captain Norman conveyed the thanks of those present for this pleasant interlude in the day's proceedings.

At four o'clock the members were conveyed back to Belford, where an excellent dinner was served in the Blue Bell Hotel, Mr William B. Boyd, Faldon-side, in the absence of the President, occupying the chair. An apology for absence on the ground of ill health from the President, Rev. Thomas Martin, M.A., Lauder, was read and sustained. A number of botanical specimens were examined and discussed, after which the party returned homewards by the North and South going trains, having had an enjoyable, if not a conspicuously productive, excursion.

Club**Dinner.**

EARLSTON, FOR THE BLACK HILL.

THE THIRD MEETING was held at Earlston, on 22nd June, with the view of examining the geological features of the Black Hill. Among those present were the following:— Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, B.D., Editing Secretary; Mr George Bolam, Treasurer; Mr William B. Boyd and Miss Boyd, Faldonside; Colonel A. M. Brown and Miss Brown, Longformacus; Mr G. G. Butler, Ewart Park, Wooler; Mr Allan Falconer, junr., Duns; Mr John Ferguson, Duns; Mr Arthur Giles, Edinburgh; Mr J. G. Goodchild, F.G.S., Edinburgh; Mr George Henderson, Upper Keith; Mr James Hood, Townhead; Mr William Little and Mr Francis Lynn, Galashiels; Mr F. E. Rutherford, Hawick; Mr H. Rutherford, Fairnington; Mr Adam P. Scott, Amble; Mr Jas. A. Somervail, Broomdykes; and Mr Joseph Wilson, Duns.

As the contingent from the East had some time to spare before the arrival of members from other directions, a start was made for the historic **Rhymer's Tower.** The ruin which has so recently become the property of the Edinburgh Border Counties Association.

Though comparatively little of it has been left standing, the existing remains afford evidence of its having been a stronghold, consisting of at least one story built over an arched cellar of considerable dimensions, which had probably been employed as a shelter for cattle and beasts of burden. Its remaining wall to the West presents a complete perpendicular edge, showing rounded angles, and resting on a square foundation of sandstone, but is itself built throughout of whinstone. It is a pleasure to be able to report that every precaution seems to be taken by the Association to preserve the Tower from further decay, and to rid the enclosure of those unsightly vestiges by which thoughtless excursionists too often deface such places of interest.

On the arrival of the train from the West, the party, under the guidance of Mr J. G. Goodchild, F.G.S., **Black Hill.** set out for the Black Hill, the route lying through the home-farm of Cowdenknowes, and along an easy grass-grown path on the North side, where Parsley Fern (*Allosorus crispus*) was found in great abundance. After a pleasant ascent in bright sunshine, and with a Westerly breeze which added greatly to the comfort of the pedestrians, and secured for them a magnificent view of the surrounding country, the summit was reached, and breathing space obtained to distinguish the points of interest presented in the extensive panorama which lay unfolded before them. Here, at a conveniently sheltered spot, and in full view of the rich valley of the Tweed, Mr Goodchild explained the similarity of structure existing in the Black Hill and the Eildons, laying stress (as he had done on the occasion of the first meeting this year) upon the fact, that a continuous sheet of Trachyte of an intrusive character had made its way through the overlying but softer formation of Sandstone, and had supplied it with a cover, possessing greater power of resistance to the atmosphere, which had preserved from waste the several peaks that form such notable features in the surrounding landscape.

A move was then made in the direction of the Old Red Sandstone Quarry on the South side of the hill, **Red Sandstone Quarry.** where operations have for a time come to a standstill. Here, again, Mr Goodchild afforded a full and lucid description of the nature and origin of this interesting formation. The prevailing stone in the quarry is said to be fairly typical, being red, and a true sandstone. It belongs to the Upper Old Red, in contra-distinction to an older stone to be found on the Cheviots and near St. Abb's Head, and assumed its present station in the following way. At an earlier period the British Isles stood higher than at the present time, making it possible for continental rather than insular conditions to prevail. In consequence the rainfall was not so great; and rock was formed in an arid climate, which admitted of the generation of little animal life. Great sandbanks were continually being driven by the wind and entrapped in shallow sheets of water,

where gradually they were solidified, and impressed with markings, still apparent, by the force of the sun baking the surface as it absorbed the water lying on it. These sun-cracks are easily detected, and were discovered without difficulty amongst the refuse of the Quarry. During this period of formation animal life embraced various species of fishes, one of which, *Bothriolepis obesa*, with its home at the bottom of the water, resembling the common Sturgeon; and another, predaceous in its habits and armour-plated, *Holoptychius nobilissimus*, named, it is averred, not by reason of its own inherent greatness, but because of its discovery by one possessing the patronymic of Noble. The Club had not visited this Quarry since 1866, when the Secretary, Mr George Tate, Alnwick, identified remains discovered by Mr James Wood, Earlston, with the scales of the latter fish; but even a better fortune had been reserved for this excursion, as, after a diligent search for half-an-hour among the debris, it fell to Mr George Bolam, Berwick, to pick up pieces of the sandstone bearing impressions respectively of one of the bones of the former fish, and one of the scales (in size about a half-crown) of the latter. Hearty congratulations were accorded him, as well as a cordial vote of thanks to Mr Goodchild for his excellent and deeply interesting explanation of the geological features of the hill.

The route homewards lay through the beautiful grounds of Cowdenknowes, which had been kindly set open by the genial proprietor, Colonel Charles Hope. At the East Lodge a fine effect was afforded by the luxuriant growth of *Tropaeolum speciosum*, entwining the sombre foliage of an Irish Yew, and brilliant in its display of scarlet flowers. Following the path along the banks of the Leader, which in its winding course adds beauty to the landscape, and supplies a fruitful source of interest to the botanist, the party thoroughly enjoyed the welcome shade of the overhanging trees, and reached Earlston up to time, much to the credit and satisfaction of the Organizing Secretary. During the ramble about the river banks *Asarum Europaeum* was, as formerly, found in the near proximity of the garden of the Mansion-house, but as it has never been seen elsewhere in Berwickshire, or in Northumberland, it

still must be regarded as a garden-escape. *Lepidium Smithii* was also noted on the Leader side.

In the unavoidable absence of the President, whose letter of apology was duly read and sustained, Mr
Club Wm. B. Boyd, Faldonside, occupied the chair
Dinner. at the dinner held in the Red Lion Hotel at
half-past two o'clock. After an excellent repast
and the usual toasts, Mr Ferguson, Duns, exhibited a variety
of exquisite blooms of *Calochortus*, an exclusively North
American genus, distributed over the Western slopes of the
Rocky Mountains, from California to the extreme North
of British Columbia. He explained that, though catalogued
by the florists as "Mariposa lilies," and "Butterfly" and
"Peacock Tulips," they were more closely allied to the
Fritillarias than to any other European genus; and that,
while not perfectly hardy in this country, they could be
wintered and flowered with only a slight protection.

EMBLETON AND DUNSTANBURGH CASTLE.

THE FOURTH MEETING of the season was held at Christon Bank Station, North Eastern Railway, on 27th August, when a large party assembled to take part in the day's excursion. Among those present were noted:—Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, B.D., Editing Secretary; Rev. W. E. Bolland and Mrs Bolland, Embleton; Mr C. B. P. Bosanquet, Rock Hall; Colonel A. M. Brown and Miss Brown, Longformacus; Mr G. G. Butler, Ewart Park; Mr J. Cairns, Alnwick; Mr J. Hewat Craw, Foulden; Hon. and Rev. W. C. Ellis, Bothalhaugh; Rev. James Fairbrother, Warkworth; Mr J. S. Fawcus, Dunstan Steads; Captain Forbes, R.N., and Miss Forbes, Berwick; Mr Gideon J. Gibson, Netherbyres; Mr Arthur Giles, Edinburgh; Mr J. G. Goodchild, F.G.S., Edinburgh; Mr Robert Huggup, Newcastle; Misses Milne-Home, Caldra; Mr C. E. Moore, Alnwick; Mr George McDowall and Mrs McDowall, Morpeth; Mr J. L. Newbigin, Alnwick; Mr Henry Paton, Edinburgh; Mr Andrew Riddle, Yeavering; Mr H. Rutherford, Fairnington; Mr T. B. Short, Berwick; Mr Jas. A. Somervail, Broomdykes; Rev. Dr Sprott, North Berwick; Mr Edward Thew, Warkworth; Mr Andrew Thompson, Glanton; Rev. Canon Walker, Newcastle; and Dr Waterson, Embleton.

On reaching Embleton, a village of between three and four hundred inhabitants, the first object of interest that presented itself to the visitors was a large boss of whinstone, running North and South through the village, where it is quarried for sets and road metal. The quarrymen form an important section of the village community. Details regarding the characteristic features of the rock were supplied by Mr J. G. Goodchild, whose contribution on the subject will be found in this year's Report.

Thereafter a start was made for the Parish Church, whose outstanding features were kindly described by **Embleton Church.** the vicar, Rev. W. E. Bolland. The earliest church was probably early Norman, without aisles, and consisting of tower, nave, and chancel, parts of which are still to be seen in the lower portion of

the tower; and in the walls of the nave, above the early English arcades, there is an interesting trace of late Norman or transitional work in the capitals below the new chancel arch, which indicate some alteration having taken place in the original chancel about 1180, or a little later. An addition of aisles was made in the early English period, the date of which is generally given as 1200, and an arcade of three bays was inserted in the walls of the nave which were left in position. The present aisles, however, are wider than these, and were probably built about 1350, when the two upper stages of the tower were erected and the chantry was added, which is now the Craster chapel in the North aisle. At some period in the Georgian era a typical "churchwardens'" chancel was substituted; but it was removed in 1867, being replaced by the present one, which was built at the instance of the Wardens of Merton College, Oxford (the patrons of the living), and after the style prevailing at the time of Walter de Merton, the founder of the College (1264). In respect of other points of interest, the Norman windows in the tower at its second stage, though now blocked up, show a marked resemblance to those in the tower of Ponteland Church, also in the patronage of Merton, from which it is concluded that in the erection of both the same architect and masons were employed. The open parapets, which add so much grace and beauty to the tower, are comparatively rare in the North of England. On the arches of the nave is seen a simple dogtoothed flower at the springings, while the hood-mouldings have hammer-head or nail-head ornaments, the combination of which on the same arch being by no means common. In the North aisle, besides the Craster chapel or mortuary, there are indications of other chantries in the ambries and niches still remaining. The stained glass in the chancel windows is a good example of Kemp's earlier work, and was placed there to commemorate Sir George Grey, of Fallodon, who for so many years filled the office of Home Secretary. The scheme of colour is excellent, while the subject—"the Holy Catholic Church and the communion of saints"—is ingeniously expressed in the emblem of the vine, whose central stem is the figure of the glorified Redeemer. Very strongly marked is the inclination of the chancel towards

the North, the usual skew in such cases being toward the South. In the entrance porch, added in the Perpendicular Period, are arranged several grave-covers ornamented with elaborate crosses. Four of these have a sword in addition to the cross, indicative of a man's burying-place, and one has the shears or scissors, suggestive of a woman's. After a cordial acknowledgment of the Vicar's kindness, the members made a minute examination of the building, and thereafter repaired to the Vicarage to view that portion of it which is fortified after the manner of those of Witton and Elsdon in the same county, for the purpose of defence against the inroads of the Scots.

A distance of about two miles separates Embleton village from the historic ruins of Dunstanburgh Castle.

Route to Dunstanburgh. The road from the North lies along a pleasant lane by the side of Embleton Burn and past the farm of Dunstan Steads, the tenant of which, Mr J. S. Fawcus, along with Dr Waterson, Embleton, afforded the party every opportunity of becoming acquainted with the local objects of interest. On the way to the Castle a stretch of links, on which the Burnet-leaved Rose (*Rosa spinosissima*) and the Bloody Cranesbill (*Geranium sanguineum*) flourish abundantly, has to be traversed, and along its varied surface were discovered Parsley Water Dropwort (*Enanthe Lachenalii*) and common Pepper Saxifrage (*Silaua pratensis*), together with a number of the more common plants of the locality.

As the examination of the fortress and the basaltic rock on which it stands would occupy a considerable space of time, and tax the endurance of many who had made an early start from home, a halt was called on the shore at an outcrop of limestone (so strangely shaped as to present the appearance of an enormous saddle), for the twofold purpose of listening to a descriptive account of its origin and formation by Mr Goodchild, and of partaking of lunch, as each had made provision. The theory commonly advanced regarding it is, that in a remote age two molten streams of rock collided with each other, and in the collision occasioned this peculiar upheaval, whose ridge has suggested the name by which it is familiarly known.

Saddle Rock.

In advancing another, and as yet unpublished, explanation of this geological curiosity, Mr Goodchild laid stress upon the theory of disturbance, by which formations at first laid down in horizontal sheets were tilted into a series of folds, and afterwards found lying at various angles. He mentioned that sometimes a disturbance affecting Carboniferous rocks would take an extreme form and turn them even upside down; but that, in regard to the case of the Saddle Rock, recent investigations at other portions of the East coast had led him to a very different conclusion. The theory he now advanced, and which he hoped to explain more fully at the forthcoming meeting of the British Association at Southport, was based on the fact that during the Age of Snow that part of the world was enveloped with a sheet of ice of enormous weight and thickness, moving seawards from the interior, but, on reaching the coast, pursuing a course in large measure parallel with it. This deflection Southward was occasioned by the action of an opposing sheet of Scandinavian ice of greater thickness, which, extending over the North Sea and gaining thereby an increased momentum, forced the local ice in the direction indicated. He was of opinion, therefore, that the unusual appearance of the rock in question was due, not to any disturbance such as was commonly suggested, but to a displacement by a frozen mass pressing in from the North, and crumpling the rock into the fantastic shape in which it now appeared. On the motion of Captain Norman, R.N., who spoke of Mr Goodchild as not only an eminent geologist, but one always ready to impart to others the results of his experience and research, a hearty vote of thanks was accorded him for his instructive addresses.

The party now moved forward to the great gateway of the Castle, which, from its commanding position, forms a conspicuous landmark alike to mariner and landsman. Here a descriptive paper was read by Captain Norman, R.N., who took occasion, as he directed attention to the old tower and hamlet of Dunstan, now known as Procter Steads, to revive the belief of its being the birth-place of Duns Scotus, the celebrated 13th century Schoolman, a statement to that effect being alleged

to exist in a manuscript of his, preserved in Merton College Library, Oxford. Some doubt has always been entertained regarding the authenticity of this record; and on this occasion expression was given to it by Rev. Dr Sprott, North Berwick, who, in true patriotic fashion, laid claim to "the subtle doctor" as a native of Duns, in Berwickshire. It will not be easy, therefore, for those holding this opinion to accept the conclusion arrived at by Mr Bateson, when he says:—"The birth-place of the great Schoolman will probably never be ascertained with certainty; but it may be urged in favour of Dunstan, that Duns Scotus was a Fellow of Merton College, Oxford, to which the living of Embleton belonged, and to which a native of Embleton parish would naturally proceed." Such artless methods may have commended themselves in earlier days; but in view of the familiar latter-day experience of a prophet being "not without honour, save in his own country," and of the commonly received tradition that "Duns dings a'," we fear the argument may not find universal acceptance!

In his interesting sketch of the Castle and its environs, Captain Norman briefly recalled its connection with Simon de Montford, Earl of Leicester, who purchased it early in the 13th century; with Thomas, Earl of Lancaster, by whom orders were given, on 7th May 1313, for the quarrying of stone for its construction; and with John o' Gaunt, afterwards Earl of Lancaster, who, by his marriage with Blanche, younger daughter of Henry, Duke of Lancaster, became possessed of Dunstanburgh, and in 1368 began to make extensive alterations and additions to it, tracing its fortunes and those of the Red Rose faction in Northumberland on the following lines.

"The other castles of Northumberland," says Historical Notes. Bateson in his history of that county, "are principally famous for the part they and their lords played in Border warfare, but this castle is connected only with the internal history of England." It was owned by two great popular leaders of the thirteenth and fourteenth centuries, Simon de Montford and Thomas of Lancaster, and its fortunes were closely interwoven with those

of the Red Rose in the wars of the fifteenth. The name "Donestanesburgh" shows that it was a "burh," or fortified tribal centre, at a date possibly as early as that of Bamburgh, and was probably established by some forgotten Dunstan. Of the causes that led to its demolition and desertion nothing is with precision known. About the middle of the thirteenth century the Barony of Embleton, which included the Manor of Dunstan, was purchased by the celebrated and powerful Simon de Montford, Earl of Leicester. His motive for so doing is not easily ascertained, though probably he sought thereby to confirm his already acquired influence in the North, in the carrying out of which scheme he conceived the project of raising an impregnable fortress on the basaltic ramparts of Dunstanburgh. He was killed at the battle of Evesham in 1265, and it is recorded that one of his feet, hacked off on that disastrous field, was encased in a silver shoe, and preserved in Alwick Abbey till the Reformation. On de Montford's death the Barony of Embleton, along with the rest of the Earldom of Leicester, was forfeited to the crown, and thereafter granted by Henry III. to his own son, Edward, Earl of Lancaster, from whom it passed to his son Thomas, Earl of Lancaster, and great-nephew (not grandson as stated in a local guide-book) of Simon de Montford, who had married a sister of Henry III. By his instructions were given for preparing the sandstone for the erection of the Castle of Dunstanburgh, the architect of which, despite a statement to the effect that he was Daniel Cardifoe of Hexham, is still unknown. The work of construction was briskly carried out, a hostelry for the accommodation of the workmen, eighty feet long by twenty feet broad, being erected in the immediate neighbourhood. A moat also, eighty feet broad and eighteen feet deep, was dug on the West side of the building between it and the field of Embleton. In 1322 Earl Thomas came to an untimely end, being executed by the orders of Edward II., in his own castle at Pontefract, for "secret dealings with the Scots." The estates were thereby forfeited anew, but were restored in 1324 by Edward II. to Henry, younger brother of Thomas, whose loss of them is conveniently glossed over in the deed of gift with the somewhat disingenuous explanation that "he had

gone the way of all flesh!" This Earl Henry is heard of in Merton College, Oxford, as a disputant regarding the advowson of Embleton, which was decided in favour of the College in 1331. Later still the Duchy of Lancaster, including Dunstanburgh, became again vested in the Crown, inasmuch as Henry IV. was the son of John o' Gaunt, who married Blanche, younger daughter and sole heiress of Henry Wryneck, Duke of Lancaster, himself the son of the aforesaid Earl Henry. In the great struggle between the Houses of York and Lancaster, known as the Wars of the Roses (1449-1461), this hereditary stronghold of the Red Rose faction in Northumberland was much involved, in the course of three years having been taken and retaken no less than five times. In 1461 it surrendered to Margaret of Anjou, wife of Henry VI., whose name is commemorated in the title of Queen Margaret's Cove, given to a deep chasm in the rock-bound coast to the East of the building. After sharing the fortunes of the Red Rose faction, which culminated in the defeat and death of Henry at Tewkesbury in 1471, she finally retired to France, and spent the remainder of her life in deep distress. Through the triumph of the White Rose and the accession of Edward IV. to the throne, the Castle once more passed into the hands of the sovereign. During the reign of Henry VIII., a survey was made of the buildings by Royal Commissioners, who reported, in 1538, that the Castle was "a very reynus howsse and of smaylle strengthe," a view which is confirmed by Sir Robert Bowes in his "Book of the state of the Marches," compiled in 1550, in which he pronounced the Castle to be "in wonderfull great decaye." It is generally believed, however, that in place of being repaired the Castle was to a great extent dismantled, its stones and lead and timber supplying a convenient store from which to draw for the maintenance and construction of other buildings in the neighbourhood. During the reign of James I., Dunstanburgh was sold to Sir Ralph Grey, and it continued to be the property of his descendants till its conveyance, in 1869, by the Earl of Tankerville, to the trustees of the late Mr Samuel Eyres, of Leeds, for the sum of £155,000, whose successor, Mrs Eyres-Monsell, of Dumbleton Hall, Worcestershire, is the present proprietrix.

This mediæval stronghold, where we find a combination of natural and architectural beauty, enriched by historical interest, occupies picturesquely the North end of a basaltic ridge, which is washed by the sea on the North and East, and cut off toward the South and West by low, swampy, and formerly tide-washed ground, which has been reclaimed by drainage and embankments. It encloses a space, larger than any of the other castles of Northumberland, which is irregularly rectangular, and contains eleven acres, constituting the Outer Bailey. The Inner Bailey was a very much smaller enclosure, abutting on the North side of the great Gate-house, while traces of a rough stone rampart to the South make it probable that the whole rock may have been fortified in pre-historic times. The chief fortress stands on the South or most vulnerable side, and was used as a Gate-house. It consists of an arched way with two storeys, flanked by two towers, which, viewed from outside the building, have a semi-circular appearance. Both ends of this way were at one time built up with a view of converting the Gate-house into a donjon or keep, in consequence of which a new chief entrance to the Castle was devised about twenty yards along the curtain-wall in a North-westerly direction, of which the site can be distinctly traced by reason of the portcullis groove, which still remains on the North side of the passage. In later days this fell into disuse, giving place to the original Gate-house, whose temporary walls to form the donjon were finally demolished. The Southern curtain-wall is adorned with two small towers, and a larger one known as Queen Margaret's, or Egginclough, in which the heroic Queen of Henry VI. is said, though upon no very reliable authority, to have taken refuge before escaping in a fishing boat from the adjacent rocky cove, which still bears her name. Very little of the building remains, the Southern wall having nearly all fallen away; but evidence is not wanting in the handsome ashlars which compose the basement, and the poorer masonry which characterises the upper portions of the building, that "at sundry times" the Castle assumed the proportions that still distinguish it. On the West side the most remarkable feature is what is still known as Lilburn Tower, standing on a steep hill and rising

picturesquely from the midst of detached columns of basalt, which seem as if deposited to protect its base. It is believed to be the work of Sir John Lilburn, Constable of Dunstanburgh about 1325, and it occupies the highest point within the area of the Castle. In consequence of its exposed position it has suffered greatly from wind and thunderstorms, by reason of which its internal arrangements can only be conjectured. The walls are six feet thick, and the space enclosed measures nearly thirteen feet six inches square. At each angle of the roof a solid turret rose about eighteen feet to the height of sixty feet or thereby above the base of the tower. "Nothing," says Mr Freeman, "can well be conceived more striking than Lilburn Tower, a Norman keep in spirit, though of a far later date, rising on the top of the wild hill, with the tall basaltic columns standing in order in front of it, like sentinels of stone." Immediately beneath the tower a small postern, with a round arch of the decorated period, opens on to a footpath which leads down the steep escarpment in the direction of Embleton. The curtain-wall is continued Northward for a few yards, and then, adapting itself to the configuration of the slope on which it is built, is brought to an abrupt termination at the Gull Crag, a precipice which rises upwards of one hundred feet above the level of the sea, and forms the Northern boundary of the Castle.

At a headland in it, called Castle Point, occurs a perpendicular chasm, hollowed out by the disintegration of a column of basalt, and terminating in a narrow aperture on the ridge above, which has been named by some "The Rumble Churn," in contradistinction to the creek nearer the Castle, which bears the name of Queen Margaret's Cove. The reason for the transference of the title lies in the fact that on account of the tremendous force oftentimes generated by a North-Easterly gale at half-tide, a huge column of surging water is thrown up into the air at this point, suggestive of the commotion caused by the use of this valuable dairy utensil. It cannot be said, however, that this explanation suffices to throw discredit altogether on the older theory that the larger and more rugged bay, associated with Queen Margaret's fortunes, is entitled to the traditional nomenclature. Ample time was allowed for a

ramble among the ruins, and an examination of the cove beneath the Castle, where the quartz-crystals, locally known as "Dunstanburgh diamonds," were discovered in abundance, though so embedded as to require a quarryman's skill to dislodge them. It was observed, with much regret, that the well of the castle in the Inner Bailey had been filled up with stones. The old dungeon has recently been opened, and, on peering down into its dark recesses, the members had no desire to become more intimately acquainted with so gruesome a feature of old castle life.

The members returned to Embleton, where, at four o'clock, dinner was served in the Dunstanburgh Castle Hotel. In the unavoidable absence of the **Club** President, the Rev. Canon Walker, Whalton, occupied the chair. The usual toasts were **Dinner.** duly pledged.

NOTE:—The attention of members is directed to Vol. VI. of the Club's Proceedings, which contains valuable papers by the late Mr George Tate, F.G.S., on "Dunstanburgh Castle and the Basaltic Rocks of Northumberland."

DALKEITH PALACE AND NEWBATTLE ABBEY.

THE FIFTH MEETING was held at Dalkeith, on Wednesday, 23rd September, in delightful weather, when a large number of members and guests met at the Railway Station, and under the leadership of Mr James Whytock, gardener to His Grace the Duke of Buccleuch, proceeded to view the spacious and ornamental grounds of the Palace. Among those present were:—Rev. Thomas Martin, M.A., Lauder, President; Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, Editing Secretary; Mr William B. Boyd, Faldonside; Mr T. Craig-Brown, Selkirk; Rev. J. C. Carrick, B.D., Newbattle; Mr John Caverhill, Jedneuk; Rev. Professor James Cooper, D.D., Glasgow University; Mr D. M. Dall, Edinburgh; Mr A. M. Dunlop, Crawford; Mr William Evans, F.R.S.E., Edinburgh; Rev. J. A. Findlay, M.A., Edinburgh; Captain Forbes, R.N., and Miss Forbes, Berwick; Mr Gideon J. Gibson, Netherbyres; Mr Arthur Giles, Edinburgh; Mr George Henderson, Upper Keith; Mr J. C. Hodgson, Alnwick; Rev. David Hunter, D.D., Galashiels; Mr W. H. Johnson, Edinburgh; Rev. Ambrose Jones, M.A., Stannington; Mr H. M. Leadbetter, Legerwood; Very Rev. Thomas Leishman, D.D., Edinburgh; Mr James Lyle, Edinburgh; Mr Francis Lynn, F.S.A., Galashiels; Major J. F. Macpherson, Edinburgh; Mr William Maddan, Berwick; Rev. Thomas Porteous, B.D., Edinburgh; Mr Armitage Rigby, Isle of Man; Mr H. Rutherford, Fairnington; Mr T. B. Short, Berwick; Rev. George Sprott, D.D., North Berwick; Mr J. A. Terras, Edinburgh; Mr John Turnbull, Galashiels; Rev. Canon Walker, M.A., Whalton; Rev. Beverley S. Wilson, Brantingham; Mr C. B. Wilson, Whitley Bay; Mr Joseph Wilson, Duns; Mr William Veitch, Duns.

The route lay through the Arboretum, which was beautifully laid out with a splendid variety of rare and vigorous shrubs and trees, among which special note was made of the Willow-leaved Holly (*Ilex angustifolia*), the Japanese Umbrella Pine (*Sciadopitys verticillata*), and the Weeping Wellingtonia (*Wellingtonia gigantea pendula*). Passing on over the soft and well-kept greensward, the members were conducted to the flower-beds of the terrace and gardens, which, despite the late and unfavourable season, were blooming in rare profusion. Specially noteworthy was the display of East Lothian stocks and asters, leading up to and surrounding the sun-dial in the kitchen-garden, such a wealth of colour being seldom seen so late in the season. In the greenhouses dwarf Celosia in two varieties, Red (*coccinea*) and Yellow (*aurea*), appeared to great advantage against a background of Geraniums, Fuchsias, etc.; while in the stove-house a plant of the Bread-fruit or Banana (*Musa Cavendishi*), which produces only one crop of fruit, and ripens it when fifteen months old, attracted special attention on account of the heavy cluster of fruit it had provided for the Club's inspection.

Much time might have been profitably spent in examining the treasures of these well-stocked houses and gardens, but, as the day was advancing, and much remained to be overtaken, a start was made for the Ducal residence along a shaded bank which led over the Montagu Bridge, erected at the close of the eighteenth century by Duke Henry, and from which an extensive view of the valley of the N. Esk can be obtained. The Palace is a symmetrical, classic structure, crowning a steep rocky knoll above the right bank of the river, and was built to the order of the Duchess of Monmouth in 1642, under the direction of Sir John Vanbrugh, the architect of Castle Howard in Yorkshire, and of Blenheim House. The Loo, a royal hunting-lodge in the Netherlands, beloved of William of Orange, is said to have been the model on which it was constructed. Its general appearance is that of a heavy-looking Grecian pile of reddish stone, with recessed centre and projecting wings, in the left one of which is now placed the entrance door. Special interest attaches to the building

from the fact that it has been four times used as a temporary royal residence, Charles I., George IV., Queen Victoria, and Edward VII., having each in turn accepted the hospitality of its princely possessors. The interior is rich in art treasures, including six family portraits by Gainsborough and Sir Joshua Reynolds, a portrait of George IV. by Wilkie, presented by His Majesty to His Grace after his visit to Scotland in 1822, three landscapes by Claude, and examples of Holbein, Rembrandt, Vandyck, etc., which adorn the walls of the staircase and reception-rooms. Particular attention was directed to two exquisitely designed cabinets in the drawing-room, originally presented by Louis XIV. to Charles II., and afterwards bequeathed by him as a wedding-gift to the Duke of Monmouth. After a hasty lunch on the carriage-drive, the members proceeded along the banks of the river in the direction of an ancient forest of oak, in which the deer were disporting themselves undisturbed by the presence of strangers. No accurate account of its age is now possible; but from the appearance of the roots of many of the trees exposed along the line of march, it was easy to conjecture that they were of great antiquity, and the survivors of many an unrecorded storm. Wandering along the banks to the point at which the waters of the North and South Esk commingle, the party at length reached the confines of the Park, which contains about eight hundred acres Scots, and is surrounded by a high wall; and passing through a well cultivated market-garden, in which a late variety of dwarf-pea was in bloom and pod, entered by the great gateway the adjoining property of Newbattle Abbey.

Through the kind offices of Mr John Caverhill, Jedneuk, factor on the estate, and the courtesy of Lord Newbattle. Playfair, the tenant of the house and shootings, permission had been obtained to view the house and grounds; and so, furnished with a passport, and guided by Mr John Ramsay, Clerk of works on the estate, the members gained admission to view the ancient monastic building, which, after passing into the hands of lay proprietors, had long ago been transformed into a mansion. Before leaving the gateway, through the courtesy of Mr James A. Hood, manager of the Lothian Coal Coy., Ltd., they were shown

a section of the Lady Victoria pit opened in 1894, which indicated the shallow level at which the monks of early days procured their fuel, as well as the present working of the seams of coals to a depth of 260 fathoms. On either side of the carriage-road were observed specimens of Evergreen Oak (*Quercus ilex*), grown from acorns planted by a former scion of the house of Lothian after the battle of Salamanca, in which Wellington defeated Marmont on 22nd June 1812. Crossing the river at this point is an ancient bridge, single-arched and ribbed, and beautifully festooned with ivy, which seemed to threaten its stability by the ramifications of its roots and tendrils, of whose history no very definite information was obtained. It is known as "The Maiden Bridge," and was used by the dwellers in the monastic establishment and village situated in the Abbey Park to reach the great gates of the Abbey itself. Passing along the drive, bordered by handsome Sycamores, the party arrived at Newbattle, which occupies the site of the ancient Abbey, and is a solid and comfortable building, with a castellated front. Its late owner, the Right Hon. Schomberg Henry Kerr, 9th Marquis of Lothian, a liberal patron of the fine arts and a lover of antiquities, expended much labour in excavating the foundations of the monastery church, and stamped his possession with the seal of diligent research by unearthing these, and leaving them exposed to view as indicated in the plan (Plate IV.) reproduced in this year's Report.

The following details respecting the history and architectural features of this ancient building have been kindly supplied by Rev. J. C. Carrick, B.D., the present incumbent of the parish. The Abbey was founded by David I., about the year 1140, for Cistercian monks brought from Melrose (which had become crowded) under the leadership of Ralph, "a person of a beautiful presence, continually occupied in divine meditation, who from his youth loved his Creator with all his heart"; and the name ascribed to it, Newbattle, or more properly, Newbottle, which signifies "new residence," perpetuates the idea of a new colony. It was built on the banks of the South Esk, amid dense woodlands, and within the "Monkland Wall," erected by William the Lion, parts of which are still standing.

The following is its earliest charter of foundation:—"David, King of Scots, to the Bishops, Abbots, Knights, Barons, representatives, and to all his faithful in his whole kingdom, greeting. Be it known unto you that I have given and made this grant for ever to God and Holy Mary, and to the monks of Newbattle. In witness whereof, Ruchal; Alwinus, Abbot of Edinburgh; Gilbert, Prior; Edward, Chancellor; Duncan, Knight; Hugo de Morewyll; and Macbeth of Liberton. Given at Edinburgh." The Cistercian Order, for which it was founded, originated at Citeaux, near Dijon, in Burgundy, in 1098. Its greatest Saint was Bernard of Clairvaux, the great medieval hymn-writer, who really put the Order into shape, and founded the Abbey of Clairvaux (that is "bright valley"), in what had once been "the vale of wormwood." As early as 1250 A.D. the Cistercians possessed eight thousand monasteries and convents. As Citeaux colonized Clairvaux, so Clairvaux colonised Furness, Fountains, and Rievaulx; from Rievaulx, Dundrennan in Galloway, Glenluce, Cupar, Kinloss, Culross, Deir, Balmerino, Melrose, and Newbattle. All Cistercian monasteries were dedicated to St. Mary, and were generally built in a wooded valley on the shore of a river; and their motto, as reflecting their founder's ideas, usually took this form:—"It is good for us to be here, where man lives more purely, falls more rarely, rises more quickly, treads more cautiously, rests more securely, dies more happily, is absolved more easily, and rewarded more plenteously." The Abbey Church follows the usual Cistercian plan, having a short choir and long nave, transepts, and a central tower, which was required to be low, and often terminated in a pyramidal roof, as may be seen in the present parish church. The nave contained nine bays, and is about 167 feet 4 inches in length, and about 57 feet in width. The transepts are about 28 feet wide, and the total length of the interior of the building was 239 feet 3 inches. The Church was consecrated by the Bishop of Moray, 16th March 1233; was burned by Richard II. 1389; was the residence of Edward I. 1296, and of Princess Margaret of England 1503; and was finally burned down by the Earl of Hertford, 15th May 1544. Mark Ker, son of Sir Andrew Cessford, was Abbot at the Reformation of 1560, and, becoming a Reformer, at the dissolution of the

monasteries was made Commendator of the lands, and thus became the founder of the House of Lothian. The church was removed and rebuilt first in one site and then, in 1727, in its present position outside the "Monkland Wall." The cloister-garth measured 125 feet 10 inches square, and a refectory and kitchen were on the South side. These became the nucleus of the present mansion, which, with its pillared crypt, has a fine ecclesiastical air. Patterns of the old tiles employed in the flooring of the Abbey are reproduced in wood on the floor of a crypt recently restored, and now used as a private chapel. This floor, as well as much of the carved work in the house, is the work of Mr Ramsay.

Under the guidance of the Clerk of works and the caretaker, the members were shown through the public rooms of the Abbey, and greatly admired the magnificent collection of family portraits and other examples of the great masters. Conspicuous among these were "A boy's head," by Murillo, in the upper hall; portraits of Henry VIII., James IV., and his wife, Margaret Tudor, by Holbein, in the dining room; Vandyke's famous "Three Heads"; and a splendid equestrian portrait of Charles I., filling the South wall of the drawing-room. Newbattle Abbey is probably the richest treasure-house of Vandykes in Britain, after Warwick Castle. This room, crowded with exquisite works of art of every description, has recently been elaborately decorated, the work on the lofty domed ceiling harmonizing well with the general features of a grand reception-room. Among interesting pieces of modern furniture were several occasional tables, constructed out of timber grown on the estate by local officials, one of which, designed in Burr-oak, and inlaid with material fashioned out of a burnt beam of the Abbey, calls for special notice. In the South crypt, on the right of the entrance hall, were noted an original copy of the National Covenant of 1638, signed by a number of Noblemen and Commons, among whom is included William, 3rd Earl of Lothian, whose signature appears in a bold round hand, as well as the ancient Baptismal Font, from which it is said Mary, Queen of Scots, was baptized. It is octagonal in shape, and enriched with carved shields on every side, bearing the arms of royal and

ecclesiastical personages. Two monumental sundials, of date 1635, adorn the flower garden, each alike in design, and standing upon a widely spread base of four steps, above which they rise to a height of 16 feet. They bear the initials of Countess Anne Kerr, who succeeded in her own right in 1621, and ten years later was married to Sir William Kerr, of Ancrum, whose initials also are inscribed.

The chief object of interest for Naturalists, however, was still in store; and passing through the garden,

Beech Tree. picturesquely situated on the banks of the river, the members were at once confronted by the celebrated Beech Tree (*Fagus sylvatica L.*), whose growth and dimensions afforded the late Sir Alexander Christison an annual source of delight and veneration as he made his yearly measurements of its steadily increasing proportions. It is pronounced to be one of the largest, if not the largest, and most symmetrical specimen of its class in the British Isles, and is specially remarkable for its huge pendulous branches. Owing to its immense proportions and great spreading limbs, its actual height is not readily arrived at, though it is said to have reached 112 feet, and to cover an area of something like 180 yards. Many of its nether limbs have been bent towards the earth, and have thrown out roots of their own, from which they have reared themselves to a considerable height, forming thereby a canopy under whose shadow the party, to the number of sixty, found no difficulty in securing a comfortable shelter and retreat. Through the kind forethought of Mr John Caverhill, tea was here served to the members and guests present, who, on the call of the President, accorded him and Mr Ramsay (to whom we are indebted for details regarding the Abbey and the Beech, which will be found in special notes in the Report), a hearty vote of thanks for their kindness and attention to the party during their visit.

As the members wended their way to the Railway Station, an opportunity was afforded of viewing the

Newbattle Parish Church. venerable parish church, which stands within a stone's-throw of the site of the former building, rendered famous by the ministrations of Rev. Robert Leighton, minister at Newbattle from

1641-1653; Bishop of Dunblane, 1661-1671; and Archbishop of Glasgow, 1671-1674. Its ancient pulpit is the same from which this saintly preacher "reasoned of righteousness, temperance, and judgment to come," while the communion cups, baptismal font, hour-glass, library, and funeral bell in use during his incumbency are preserved as interesting relics in the keeping of the minister. Part of the old Manse was his residence, and bears the inscription:—"Evangelio et posteris." Very recently a tablet recording the incidents of his life has been erected in the church, which concludes with this fitting appreciation—"Blessed are the peace-makers." Another brass commemorates "Willie Creech," Burns' friend and patron, whose father ministered here. The present church is practically the old Abbey church rebuilt,—the same stones having been used both for it and for Leighton's church, as formed the original sanctuary of St. Mary.

To suit the convenience of members, dinner was arranged for in the Imperial Hotel, Edinburgh, at six o'clock, where, under the Presidency of Rev. **Club** Thomas Martin, M.A., Lauder, fifteen of them **Dinner.** brought to a close a most enjoyable and entertaining excursion, with Mr James Whytock, Dalkeith Gardens, as their guest. Special thanks were accorded to him and Mr John Caverhill, Jedneuk, for their kind services throughout the day, for which they both returned thanks. Mr Wm. B. Boyd, Faldonside, exhibited photographs of *Linnæa Borealis* at the new station on Wooden Hill, parish of Eckford, Roxburghshire, where it was discovered by him, and more recently was found to be growing in great profusion, and covering a space of upwards of thirty square yards. It was reported also that several House-martins had been seen that day feeding their young at the upper windows of the Sun Inn, Newbattle, and that a swarm of the Red Ant (*Lasius flavus*) had been observed on the banks of the Esk, within Dalkeith Palace grounds.

BERWICK-ON-TWEED.

THE ANNUAL MEETING was held in the Museum, Berwick, on Thursday, 8th October, when there were present:—Rev. Thomas Martin, M.A., Lauder, President; Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, B.D., Editing Secretary; Mr George Bolam, F.Z.S., Treasurer; Mr G. G. Butler, F.G.S., Ewart Park; Mr James Hewat Craw, Foulden; Mr A. M. Dunlop, Crawford; Lady Elliot, Maines House, and Mrs Kelsall; Mr Arthur Giles, Edinburgh; Mr George P. Hughes, Middleton Hall; Captain Fullarton James, Morpeth; Mr H. Rutherford, Fairnington; Mr T. B. Short, Berwick; Mr James Stevenson, junr., Berwick; and others.

Before assembling for the transaction of business, the members, at the invitation of Captain Norman, proceeded by the subterranean passage underlying the Brass Mount of the ancient fortifications of the town to examine the vaulted chambers below, regarding whose use and history varying speculations have been indulged in. They consist of strongly built rooms with arched roofs of brick, and numerous mural recesses suggestive of fireplaces, though no opening to the outside is apparent. At the spring of the arch in each, spaces have been left for the joists of an upper chamber, one of which in good preservation and of large dimensions still remains. Considerable mystery enshrouds the purpose for which these apartments were designed, though suggestions have been offered that they were employed as magazines, or stores, or dungeons. The character of the bricks which form the roofs stamps them with a date not later than the time of Queen Elizabeth. In view of the prevailing uncertainty regarding these chambers, it was gratifying to learn from Captain Norman that he had put himself in communication with a military authority on fortifications, and was willing, on obtaining fuller knowledge from this source, to read a paper on the subject at a future meeting of the Club.

At one o'clock the members met in the Museum, where the President delivered his retiring Address, choosing for his subject, "The Royal Burgh of Lauder, its rights and privileges." At its close he briefly referred to the loss sustained by the Club during the year through the death of the following members:—Mr Middleton H. Dand, Hauxley Cottage, Acklington; Mr David McB. Watson, Hawick; Mr William Wilson, B.A., Berwick; Dr E. C. Robertson, Otterburn; Mr James S. Mack, S.S.C., Coveyheugh; Dr Stewart Stirling, Edinburgh; and Mrs Barwell Carter, Berwick, whose hospitable reception on the occasion of their Annual Meetings was always gratefully appreciated by the members. On the motion of Mr H. Rutherford, the President received the cordial thanks of the Club for his services throughout the year, and his interesting address from the chair. As his successor he proposed Mr G. G. Butler, Ewart Park, Wooler, to whom the Club is greatly indebted for his recent services in editing the Transactions for 1901-2. Mr Butler was accordingly unanimously elected President.

A brief summary, in lieu of the detailed report, of the meetings of the year was read by the Editing Secretary, in which he referred to successful and pleasant excursions undertaken by the Club to the Eildon Hills; Ross Links; the Black Hill, Earlston; Dunstanburgh Castle; Dalkeith Palace, and Newbattle Abbey. Mr G. H. Hughes, Middleton Hall, Wooler, read his report of the meetings of the British Association, held at Southport, which he had attended as the representative of the Club, and thanked the members for the confidence reposed in him by their renewal of his appointment. On the motion of Captain Norman, he was heartily thanked for his diligence, and reappointed Delegate for the following year. Mr George Bolam, Treasurer, also read the financial statement for the year, and suggested that the annual rate of subscription should remain at ten shillings. This was unanimously agreed to. The following places were selected for the excursions of next year, viz.:—Wooler for Yeavinger Bell; Kielder; St. Mary's Loch; Eslington Park; Traquair; and Berwick.

The following were elected members of the Club, after due nomination:—Lord Armstrong, Cragside, Rothbury; Howard Pease, Otterburn Towers, **Election of Members.** Otterburn, R.S.O.; Philip S. Maclagan, Solicitor, Wooler; William Grey, Hide Hill, Berwick-on-Tweed; Gideon J. Gibson, Netherbyres, Ayton; William Thomas Waterson, M.D., Embleton, Christon Bank, R.S.O.; Ralph Herbert Dodds, Murton Villa, Berwick-on-Tweed; John Ormiston, Newtown St. Boswells; Rev. John Muirhead, B.D., Manse of Avondale, Strathavon; James Lyle, Waverley, Queen's Crescent, Edinburgh; James A. Terras, B.Sc., 40 Findhorn Place, Edinburgh; T. G. Leadbetter, 2 Magdala Place, Edinburgh; Henry Liddell-Grainger, Ayton Castle, Ayton; Sir Hubert E. H. Jerningham, K.C.M.G., Longridge Towers, Berwick-on-Tweed. It was intimated also that Mr D. D. Dixon, Rothbury, had rejoined the Club.

There were exhibited an old print of "Berwick High Street from the Main Guard," kindly lent by **Exhibits.** Mr Smail, *Advertiser* Office; a photograph of the great Beech at Newbattle Abbey, recently visited by the Club; a splinter of wood, bored by the larva of the Hornet Clearwing (*Sessia bembiciformis*); and a fossil embedded in a fragment of Lower Carboniferous Shale, found at the foot of the cliff on the left bank of the Whitadder, one hundred yards above the Blue-Stone Ford, and pronounced to be a free spine of *Gyracanthus*, belonging to the strata of the Carboniferous Period.

The members dined thereafter in the Avenue **Club** Hotel, Berwick, under the presidency of Rev. **Dinner.** Thomas Martin, M.A., Lauder.

The Black Hill of Earlston. By J. G. GOODCHILD,
F.G.S., Royal Scottish Museum, Edinburgh.

THE foundation stones of the strata seen at the Black Hill of Earlston are mostly ancient marine sediments which have undergone many and important changes since they were first laid down upon the sea floor. They were originally horizontal sheets of mud, loam, silt, and fine gravel, and piled to a great thickness one over the other. The few organic remains yet found in them prove that they belong to the Silurian System of the geological scale. These ancient sediments have subsequently been many times elevated into land, and afterwards again lowered beneath the waters of the sea. The earliest of the terrestrial movements to which these changes of level were due took place at the close of the Silurian Period, and, as will presently be shown, they must have come to a close before Middle Devonian times. The elevations of the old marine sediments into land were effected by the very slow movements arising from terrestrial thrusts, which operated chiefly from the North-west, South-eastwards. These thrusts began by flexing the old sediments into a series of gentle folds, and then, as time went on, they compressed these folds closer and closer together, until, eventually, the strata occurring over the whole area affected, which must have been many thousands of square miles in extent, became convoluted and puckered to such an extent that a large part of them was turned upside down. Their successional order, indeed, has thereby been so seriously disturbed as to defy the efforts of the best Field-geologists who have attempted to unravel their complexities, and to determine the true thickness of the rocks of which they consist.

This puckering and convolution of the Silurian strata is shared by the succeeding Lanarkian Rocks, and is, therefore, of later date than these latter. On the other hand, the volcanic rocks and the desert-formed sedimentary strata of the Caledonian Old Red (the rocks which form St. Abb's Head, the Cheviots, the Pentland Hills, etc.) lie undisturbed across the ends of these convoluted Silurian and Lanarkian Rocks, and, therefore, have clearly not participated in the movements referred to. Hence, as before remarked, the disturbances in question are entirely of older date than the Caledonian Old Red. Furthermore, the last-named strata contain pebbles derived from nearly all horizons in the Silurian (and older) rocks; and not only is that the case, but the Caledonian Old Red lies, indifferently, upon the upturned ends of a vast thickness of rocks, which range from the highest known, at one place, to the lowest at another. Hence there must have been, also, prolonged waste of the older strata prior to the deposition of the newer series that lies unconformably upon their ends. Reference has been made to this important fact on several previous occasions; but it is well to repeat the statement here, in order that the enormous extent of time implied by the gap between the Silurian rocks on the one hand, and those which may surmount them on the other, may be kept well in mind by the reader.

There are many reasons for supposing that the Caledonian Old Red formerly covered a large part of North Britain, including the area under consideration. At Earlston these rocks are now absent, because another period of denudation was continued beyond the close of the continental conditions under which the Caledonian Old Red was formed; and, in consequence, the last traces of that geological formation have long since been swept away, and used again to form rocks of subsequent date. The aggregate maximum thickness of the Caledonian Old Red amounts to several miles, so that the lapse of time implied by the unconformity under notice must be prodigious. (See the report of the Excursion to Cockburnspath.)

The rocks which form the greater part of the lower portion of the Black Hill of Earlston belong to a much later geological formation than the one referred to in the last paragraph. This rock is usually red in colour, and also it commonly consists of sandstone, either alone, or else mixed with conglomerate.

Hence its title Old Red Sandstone is really justified by the facts, which can hardly be said to be the case with the strata just noticed. As the rock under consideration forms the uppermost member of a great series of strata which were found in North Britain during Devonian times, it is also fully entitled to the further distinction of being called the Upper Old Red Sandstone. The history of the formation of the Upper Old Red Sandstone calls for a few remarks here:—At the time when it began North Britain existed under *continental* conditions—by which is meant, not that any mountain, valley, or sea-bottom, now in existence as such, had yet come into being, but that this part of the Earth's surface was situated in such a manner in relation to the geographical features of those times that the lowlands received a smaller rainfall than was requisite for the maintenance of vegetation. On the hills the case may well have been somewhat different; but even there the evidence shows that an arid climate, occasionally varied by heavy downpours of rain, prevailed for a very long time. Hence the geographical conditions must have borne a more or less close resemblance to those now existing in the arid regions of Central Asia. The slopes of the hills were trenched by large wadies, out of which occasional floods swept large quantities of angular rock *debris* to the lowlands beyond. Here and there on the lowlands a few small streams managed to hold out as pools from the time of one flood to that of the next. The few perennial inhabitants of these pools were mostly fishes. So far as is known at present these consisted of some remarkable armour-plated fishes of low zoological grade, represented in the area now occupied by Tweedside, by *Bothriolepis obesa*. This animal is classed as one of the Ostracodermi, which is an entirely extinct group distantly allied to the Elasmobranchs. With this there certainly occurred the remarkable fish *Holoptychius*, another extinct genus of fishes, allied to the modern *Polypterus* of the mid-African rivers. Probably other forms of fishes may have tenanted the rivers or the pools of the part now represented by Tweedside, as the remains of a long list of fishes have been found elsewhere. But only these mentioned have, however, yet occurred on the area under notice.

Wind played an important part in the formation and distribution of the materials out of which the Upper Old Red

Sandstone was formed. Many of the sandstones are largely composed of sand grains which have undergone prolonged wear against each other, caused by the bowling action of the wind. The beds of sandstone, too, as a whole, bear a very close resemblance in the disposition of their component layers, as well as in some other respects, to those of the sand dunes occurring in modern deserts.

We may, therefore, confidently regard the Upper Old Red Sandstone as being, in the main, a rock of *desert* origin. During the occasional, or rare, heavy downpours of rain above referred to, the rock material broken up by the heavy strain arising from the great diurnal range of temperature, inseparable from an arid climate, was swept out on to the lowlands. On similar occasions rivers extended their courses beyond their usual limits, and the fishes inhabiting those rivers were, consequently, transported into areas of the lowlands, where their waters were quickly dried up. The action of the wind kept the sand always on the move, and, at the same time, continually furnished new supplies, which were derived mostly from the waste of rocks of the adjoining uplands.

So, in time, the lowland areas became covered with a mantle composed of irregular layers of stones of torrential origin, together with banks of dry sand, transported, and frequently re-arranged, by the action of the wind. In this way grew up the Old Red Sandstone, which, in later periods, gradually consolidated from the original loose state to the condition of stone.

After a time the old continent, with its mantle of desert-formed sands, began a return movement to lower levels. As a consequence of this subsidence, the sea coast-line gradually drew nearer and nearer to these parts. The climate, from being arid, changed by slow degrees to humid; and, from the former continental state, the geographical conditions, step by step, assumed *insular* characters. Rain began to fall with more or less regularity; the diurnal range of temperature attained its minimum, as did also the annual range; vegetable life began to flourish, and with that change animals too began to thrive. So set in the Carboniferous Period; and for millions of years afterwards, during a very slow, and somewhat intermittent,

subsidence of the land, thousands of feet of mud, sand, and silt, with foraminiferal ooze in the deep water, and beds of coal in the marginal areas of the sea around the deltas, were gradually deposited one over the other, until the time came for yet another movement upwards, and another return to continental conditions. It was under these latter geographical conditions that the New Red strata were formed, vestiges of which occur in the form of stained rocks (or even of actual outliers, as the two I have before referred to at Dunbar) over so large a portion of Scotland. Later still came renewed subsidences, the first of which brought in first the Rhætic Rocks, and then the Jurassic beds, both of which may well have been here at one time.

So the story might be repeated again and again—one geographical phase gradually taking the place of another, for hundreds of millions of years, from then till now.

At an early period in the history of the Carboniferous Rocks, volcanic action commenced at several independent centres in what is now the South of Scotland. None of the volcanoes referred to ever attained to any great size; nor does it appear that any of them lasted long. The centres of eruption shifted from place to place, as time went on, and they continued to do so throughout nearly the whole of Lower Carboniferous times. The earlier volcanic products, in most cases, were basic in composition, so that the lava streams were mostly basalts.

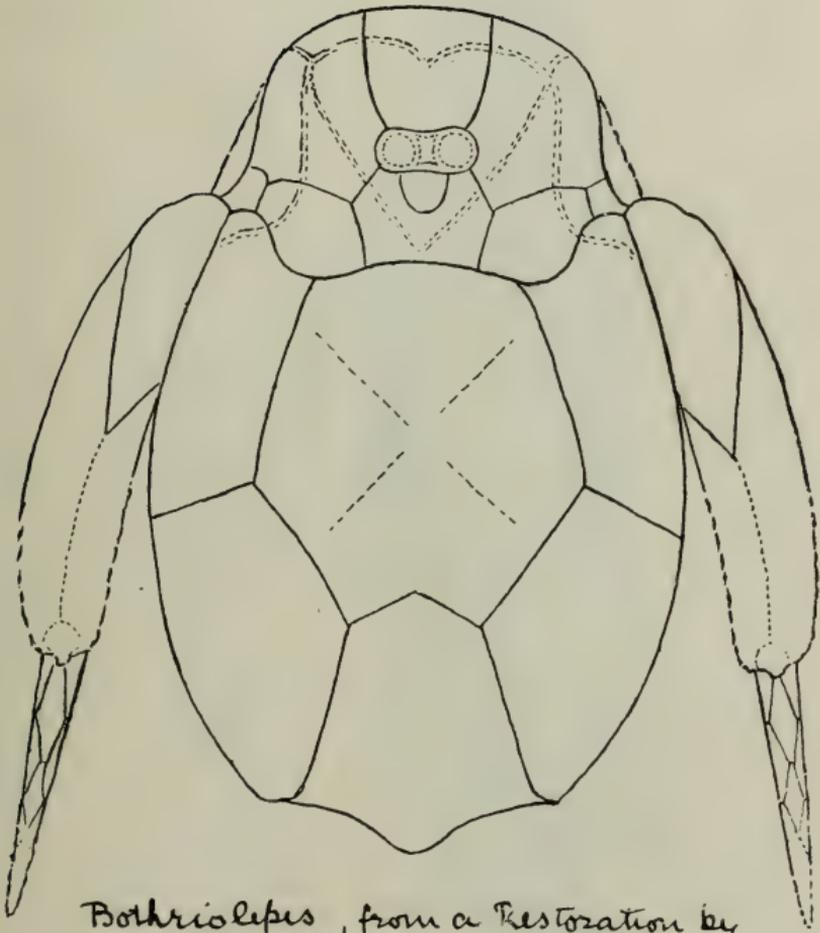
But in each latter phase of the history of a volcano, it is commonly the case that the materials erupted differ more or less from those given forth during the earlier period. A volcano which begins by pouring out basalt lavas commonly does, at a later period, give forth a fluid rock in which much more potash and silica occur. (I have suggested that this might be due to the fact that the gradual enlargement of the volcanic focus leads to some granite being reached. This, being once more gradually reduced to the fluid state, is expelled in the direction of the surface.) When a volcano reaches maturity, the pressure required to expel the fluid rock to the surface is often also sufficient to enable it to make its way in amongst the rocks *below* the surface to some distance from the focus.

Hence is formed an intrusive sheet, or a dyke, as the case may be.

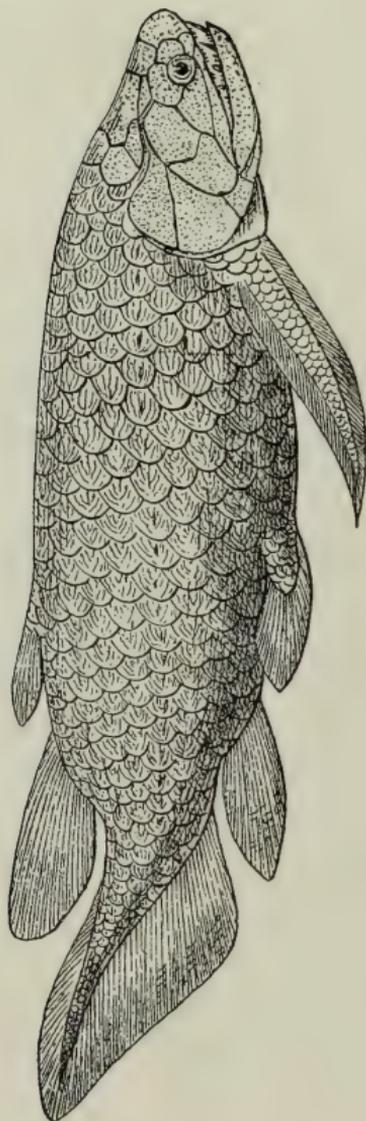
It was in this way, and at this period, I think, that the great sheet of trachyte was intruded, whose remains now form the capping to which the peculiar shape of the Black Hill of Earlston is due. It has to be remembered, in this connection, that not only was the Upper Old Red Sandstone which now forms the base of the Hill continuous far and wide around, but that the Carboniferous Rocks were almost certainly present in considerable thickness when this great trachyte sheet ate its way into the rocks around.

The shaping of the Hill into its present form is, geologically speaking, quite a recent event. The agents concerned have certainly been little else than "rain and rivers," though glacial action, during the Age of Snow, must have modified the work of the former agents to a considerable extent.

The two figures of fossil fishes are copied from restorations by Dr Traquair, and are from Harvie Brown's "*Vertebrate Fauna of the Moray Firth.*" The sections are intended to illustrate the structure of the Hill, with especial reference to the part played by the trachyte in determining its present form.



Bothriolepis, from a Restoration by
Dr. Fraquair



Holoptychius, Upper Old Red Sandstone. From a Restoration by
DR R. H. TRAQUAIR, F.R.S.

Earlston

Black Hill of Earlston

near Dryburgh



1. Soda-Trachyte intrusive sheet of ? Lower Carboniferous Age
2. Upper Old Red Sandstone, lying with a violent unconformity upon 3
3. Silurian Rocks, much convoluted and then denuded prior to the formation of the Caledonian Old Red.

River

Black Hill of Earlston

Kelso

Flanks of the Cheviot Hills



- 1 Ballagan Beds (Lower Triassic)
- 2 Kelso Traps
- 3 Soda-Trachyte intrusive sheet of Black Hill
- 4 Upper Old Red Sandstone
- 5 Caledonian Old Red Volcanic Rocks of the Cheviot-Hills
6. Silurian Rocks

Aggronochid, 1903.

The Geological Formations near Embleton, Northumberland. By J. G. GOODCHILD, F.G.S., Royal Scottish Museum, Edinburgh.

EMBLETON, and also Dunstanborough Castle, stand upon rocks which, so far as those of sedimentary origin are concerned, are of Lower Carboniferous age: that is to say, they are of later date than the Old Red Sandstone, and earlier than the Upper Carboniferous Rocks of the Newcastle Coalfield. The particular sub-division of the Lower Carboniferous rocks, which are exposed at the surface in the districts in question, belongs to what are known, in the parts of the North of England lying to the South and the South-west of Embleton, as the Yoredale Rocks. If we desire to point to the equivalent geological position of the Embleton strata when we are considering the Carboniferous Rocks of the Basin of the Forth, we may confidently accept the statement that they lie between the Lothian Edge Coals on the one hand and the Lothian Oil Shales on the other. Again, if we want to know how they stand in relation to the rocks seen in the fine coast section which is so well displayed for a few miles South of the Tweed, we may feel quite sure that these Embleton Rocks lie on a geological horizon which is lower on the one hand than the Lickar Coal seams, and is higher on the other than the chief coal seams which are worked at, and near, Scremerston. Thus, below the surface at Embleton are, in the first place, the equivalents of the Scremerston Coals; next below, there come the Fell Sandstones; and, finally, so far as the rocks of Carboniferous age are concerned, comes the great mass of shales, clays, impure limestones, and irregular flagstones which are variously known in different parts of the Kingdom as the Lower Limestone Shales, Ballagan Beds, Lower Tweedean, and the Cement-Stone Series. Under the bottom beds of the Carboniferous Rocks there may occur

irregular patches of the Upper Old Red Sandstone, on the higher beds of which are the basalt lavas of Kelso. As a vast unconformity separates the Upper Old Red from all the strata older in the geological series, no one could be quite sure, without actual proof, what rock might occur below that formation. But in the neighbourhood of the Cheviot Hills occurs a remnant of a great volcanic series, which lies unconformably beneath the Upper Old Red; and this volcanic series, in its turn, lies, also unconformably, upon any rock older than itself. In the neighbourhood of Embleton the probability is that the rock in question might prove to belong to some part of the Silurian Rocks, properly so-called.

On the other hand, it is as well to bear in mind the fact that the highest rocks seen near Embleton are only a remnant of the full thickness of the Carboniferous strata which formerly covered this district. Long before the Magnesian Limestone was formed, there extended over the whole of these parts a vast thickness of Upper Carboniferous strata, which spread continuously across what is now the upland tract of the Cheviots. These strata, which contained countless millions of tons of good coal, were entirely swept away from this part of the North of England during the long period of disturbance, upheaval, and denudation that followed the close of Carboniferous times, and terminated, for the time being, with the advent of the varied geographical conditions to which the Magnesian Limestone, the Trias, the Rhætic Rocks, the Lias, and the Oolites, were severally due. The whole of these rocks also extended across this neighbourhood, lying, as they did so, unconformably, at their base, upon any rocks older than those which formed that base. These Neozoic Rocks have come and have gone, and have left here but little trace of their former existence, except such as is presented by the red staining of the older sandstone, and the dolomitisation of the limestones.

An enormous amount of disturbance, upheaval, and denudation followed the close of the Carboniferous Epoch, all of which had ceased by the time the New Red Rocks were in process of formation. These events must have occupied a time of inconceivably vast extent, and we may regard the great hiatus which has been left in the British geological record between these two periods as almost entirely a blank, so far as strata and organic

remains are concerned. One of the very few rocks which there is any reason to regard as having been formed about this time is the great intrusive sheet of dolerite which is so well known under the name of the Whin Sill. Regarding this rock there seems to remain even yet some imperfections of knowledge, and as that is the case, a few words may be given here with the object of clearing up the more obscure, or less known, points in connection with it.

As just now remarked, the Whin Sill is an eruptive rock allied in composition to basalt, which has been formed *within* the Earth's crust, and has, therefore, not been poured out on the surface in the form of a lava-flow. One important consequence of this feature in its history is that the fluid rocks cooled much more slowly than would have been the case had the rock been at the surface. Besides that factor there is another one of importance, which is connected with the fact that it consolidated not only at a slow rate, but that it did so under great superincumbent pressure. As a consequence of these conditions, the rock has become entirely crystalline, or holocrystalline, and its component minerals are arranged, with respect to each other, in a somewhat unusual manner. The essential minerals of which it consists are ferro-magnesian silicates which belong to a group of rock-forming minerals known as the Pyroxenes. Occurring in about equal proportion to these are numerous small lath-shaped crystals of one of the lime-soda felspars, Labradorite. There is always present, too, a small, but variable, percentage of the ferrous titanate Ilmenite; and other minerals, such as Apatite, may also occur. But the two essentials are the Pyroxene and the Labradorite. The order of consolidation of these can readily be made out by the study of thin sections under the microscope, especially when polarised light is used. The iron ores (and some other constituents) consolidated first. Then the lath-shaped crystals of Labradorite crystallised out of the magma, which consisted, at this stage, almost entirely of what was destined to become Pyroxene. Finally this last-named mineral gradually passed into the crystalline state, and in doing so crystallised out in large patches, each of which enclosed some of the minerals which had passed into their finished state at an earlier stage. The structure arising in this way is known as OPHITIC. It is

characteristic of dolerites. As a comprehensive definition of what constitutes a dolerite has not yet found its way into textbooks, one such may be given here. It will embrace under one name a great variety of rocks to which those who devote much time indoors to the microscopic study of rock specimens are fond of calling by a perplexing variety of names, all but one of which are quite unneeded. The definition is as follows:—

DOLERITE, an eruptive rock of basic composition, *i.e.*, which contains not more than fifty per cent. of silica, and which consists, essentially, of one or more of the Pyroxenes, usually Augite, with about an equal proportion of a basic felspar, usually the lime-soda felspar Labradorite. The felspar occurs in lath-shaped crystals which have consolidated at an earlier stage than the Pyroxenes, and by patches of which latter mineral the felspar lath-shaped crystals are usually enclosed. Accessory minerals are commonly present, of which the two following are the chief. Some iron ores, usually the ferrous titanate Ilmenite and the ferro-magnesian ortho silicate Olivine. With these may occur small needles of Apatite (phosphate of lime). Dolerite can never occur as a lava, but only as a rock which has consolidated within the Earth's crust. It usually occurs in the form of a sill (or stratiform sheet), and less often as a dyke (or wall-like sheet). Stated in a still more concise form, a dolerite may be defined as a holo-crystalline eruptive rock of basic composition and ophitic structure. A true basalt is never holo-crystalline in structure, but exhibits, in all cases, some trace of a glassy, or else a lithoidal, ground mass, which has arisen through the comparatively rapid cooling of the part of the rock which was in a fluid state when the final stage of eruption took place.

Being an intrusive rock, the Whin Sill has made its way into the enclosing sedimentary rocks in such a manner as to occur on any one of widely separated geological horizons. At Embleton, for example, it occupies a position amongst the Carboniferous Rocks between the Eight Yards, or Underset, Limestone and the Great, or Main, Limestone, and is thus quite a thousand feet higher than it is in Westmoreland, close to the village of Helton, near Appleby. On the other hand, the Whin Sill occurs in Upper Carboniferous Rocks near Brampton in North Cumberland, where its geological position must be

nearly a thousand feet higher than it occupies at the locality here specially under notice. Indeed, even close to Embleton, the Whin Sill varies considerably in position, and at one part it rises above the Great Limestone, while within a mile or so it descends some hundreds of feet lower in the Carboniferous rocks.

Mr Clough, of the Geological Survey, many years ago brought forward trustworthy evidence in support of the view that the Whin Sill is not intrusive, in the ordinary sense, but that it occurs replaceively; or, in other words, that it has taken the place of an equivalent volume of the rocks it invades. The writer of this note has also published much additional evidence in corroboration of this view. Mr Clough's paper appears in the *Geological Magazine*, decade ii., vol. xii., pp. 434-447 (Oct. 1880); and the later one referred to is in the *Proc. Roy. Soc., Edin.*, vol. xxv., pt. iii., pp. 197-226 (1904.)

As the mode of occurrence of the Whin Sill presents many features that are of interest to the student of the geology of Northumberland, those persons who care to look into the matter may be well to refer to one, or both, of these papers, in which the actual mode of occurrence of these rocks is described in detail. In both of these papers will be found suggestions regarding the means by which this replacement of the country rock by one of a different character may have been brought about.

In the large quarries on the North-east side of Embleton village, where the Whin Sill is made into setts, there are several features of interest which may well be recorded here. Firstly, some parts of the Whin envelop detached blocks of the sedimentary rocks through which it has made its way. Amongst these some large fragments of limestone, now converted into coarsely crystalline marble, are to be seen. Further reference to this will be made presently, when dealing with the rocks in Queen Margaret's Cove. The columnar jointing of the Whin is, of course, as evident as usual; but the quarries have not yet been worked far enough to the East to enable one to see whether the joints become less evident as the rock is followed away from the surface. The weathering of the Whin is shown here most admirably. It is difficult, at first, to believe that the tough, dark blue rock from the interior of the quarry

can be reduced, by the chemical action of surface waters charged with the Humus acids, to the friable, rusty-looking compound one sees close to the surface. The tendency of the dolerite to decompose into rusty, spheroidal masses, shell within shell, often with a central ball of blue rock, is very well exhibited in this quarry. It may be well to mention in this connection that plants appropriate only the CO_2 which is mixed with atmospheric air, and take none from water; while rocks absorb none of the dry gas, and take up only that which is in the form of aqueous solutions. This is true of Carbonic Acid and also of the numerous acids of the Humus acid series, of which Carbonic Acid is the ultimate term. Each ton of dolerite, which would be represented by a cube of that rock about two feet six by the side, in undergoing decomposition, withdraws from the atmosphere 132 lbs., or about a hundredweight and quarter, of carbon. One is rather apt to forget this important fact, and I think most people fail to realise the contest that is always going on, between plants on the one hand and rocks on the other, for the available carbonic acid present at the bottom of the atmosphere.

A little to the East of Embleton glacial markings may be seen upon the surface of the dolerite. Most of these, as is usual in the maritime area of this part of England, run roughly parallel to the coast, or S.S.E.

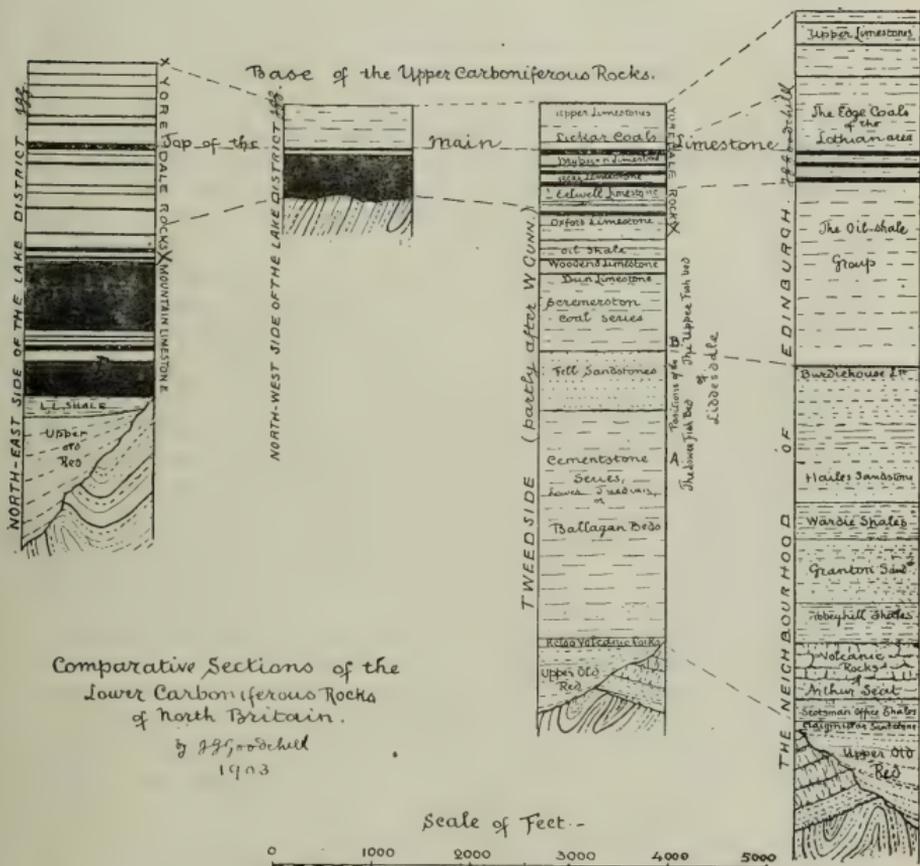
On the shore, about a mile to the East of Embleton, may be seen one or more of the later raised beaches irregularly covered near the sea by mounds of blown sand, between which are many small land-locked hollows. When the Club visited these places the turf was decorated in all directions by *Geranium sanguineum*. On the shore, about a quarter of a mile Northwest of Dunstanborough Castle, the Eight Fathoms (or Underset) Limestone is well exposed. At this point it forms the well-known "Saddle Rock," which has attracted a considerable amount of attention on account of its singular features. On the occasion of the visit of the Club, I expressed the opinion that the Saddle Rock was crumpled into its present form by some agent which had operated at the surface, and that it had been forced into its present folded state by the steady thrust exerted by the land ice to which the above-mentioned glacial markings are due, and which slowly moved in a South-easterly direction

all through the climax of the Age of Snow. Similar surface crumplings occur here and there all along the coast from the Firth of Forth to Norfolk. Clement Reid's Fold, South of Cromer, is a well-known case. A very fine one also occurs on the coast close to Scremerston. Others, in a smaller scale, may be seen on the limestones near Catterraig, close to Dunbar, and similar surface crumplings are not uncommon near Elie. Inland, too, they are far from uncommon, though geologists have not always agreed in referring them to the action of land ice.

Dunstanborough Castle stands upon a dip slope of the Whin Sill, whose general features have been already sufficiently described. At one place, on the promontory North of the Castle, is the Rumbling Churn, a fissure widened along the joints of the dolerite by the action of the sea. The Club were much indebted to Dr Waterson, of Embleton, for calling their attention to the true position of the "Churn," about which some errors have long existed.

Due East of the Castle a wide geo, as it would be termed in Caithness and Orkney, runs inland from the sea up to the Castle walls. This inlet is, as Dr Waterson rightly pointed out, the true Queen Margaret's Cove. It has been eroded in course of long ages by the action of the sea along a zone of weakness—perhaps along a small fault. On its South side the base of the Whin is seen to be very irregular, and part of some of the sandstone and limestone below it is involved in a curious manner in its lower part. I called the attention of the Club at the time of their visit to the fact that protrusions of the Whin were to be seen there penetrating the sandstone and the limestone in such a manner as to show that there had been chemical replacement of the one by the other; or, in other words, that the Whin had not *displaced* its own volume of the rock invaded, but had, instead, *replaced* it. It is to this feature (which appears to be of general occurrence) that the papers, above mentioned, by Mr Clough and myself specially refer.

In the rock caught up by the Whin, silica has been carried down in solution from the rocks above, and here and there has crystallised into pellucid crystals of quartz, which have been dignified by the name of "Dunstanborough Diamonds,"



On the Occurrence of the Lesser Whitethroat near Berwick.

By GEORGE BOLAM, F.Z.S., Berwick-on-Tweed.

I should like to draw the attention of the Club to the appearance of the Lesser Whitethroat, *Sylvia curruca* (Linn.), in the district—a matter of no small interest to ornithologists—and to the very great probability (amounting indeed to a practical certainty) of its having nested near Berwick during the last year or two. As has already been recorded in the Proceedings (Vol. x., p. 389), I shot two immature examples of this rare North country bird in the garden at Ravensdowne, on 14th and 26th September 1881; but often as it has since been looked for on both sides of the Border, I have never met with it in the district until as about to be mentioned below. And I may here state that the credit for the discovery is entirely due to the vigilance of our Organizing Secretary, Captain Norman, than whom there is no one who has the interests of the Club more at heart, nor the instincts of the true naturalist and careful observer more deeply implanted in him.

On 13th May 1902, Captain Norman first wrote me saying that he had, on the previous day, heard a Lesser Whitethroat singing in the Plantation on the banks of the Tweed a short distance to the East of Newwater Hangh, and little more than a mile from Berwick; and here on several subsequent occasions I had the pleasure of seeing and hearing it with him. It was constantly under observation until near the end of July, and was always met with in or about a large clump of Sloe bushes, and from its behaviour there can be no reasonable doubt that it nested there. In 1903 no Lesser Whitethroat was seen there; but on 11th May of the present year (1904) it was again in evidence in the same clump of Blackthorn, and has been seen and heard by both Captain Norman and myself on many different occasions. Again there can be no doubt that it must have nested there.

While I am upon the subject it may be of interest to mention that our member, Sir Edward Grey, informed me that on 9th May 1897 he and Lady Grey saw and heard a Lesser Whitethroat at Falldon, and again on 12th and 13th June 1900, and on the latter date he felt sure that it was building somewhere in the grounds, though no nest was ever actually found.

Ornithological Notes. BY GEORGE BOLAM, F.Z.S.,
Berwick-on-Tweed.

By the courtesy of Mr Liddell-Grainger, of Ayton Castle, I have had the opportunity of examining, and identifying, the following rare birds, which he has preserved at Ayton; and a note of whose occurrence in the district it is desirable to place upon record in the Club's Proceedings.

The first of these is a beautiful specimen of the MARSH HARRIER, *Circus æruginosus* (L), shot by the gamekeeper in the "Elbow covert," at Ayton, on 3rd May 1903. It is in the uniform rich chestnut-brown plumage, with pale crown, and is probably a young male. When first seen by the keeper it was soaring around, attended by a flock of Rooks, but presently descended to the trees, close to where he was, and remained sitting there till he sent for his gun, and shot it. No doubt it was a perfect stranger, and had just arrived from over sea. The Marsh Harrier is a very rare casual visitant to the district, and is not included by Mr Muirhead in his "Birds of Berwickshire."

The next is an equally fine specimen of an almost equally rare bird, the GOSHAWK, *Astur palumbarius* (L.), of which Mr Liddell-Grainger had told me at the time, and which was trapped at Middleton Hall, Belford, in the beginning of 1897. It is a female in immature plumage. A bird, which was supposed by the keeper who saw it to have been another Goshawk, was seen near the same place a few days afterwards.

Mr Liddell-Grainger had also a BUZZARD, *Buteo vulgaris*, Leach, in the usual dark brown plumage, which had been trapped in the "Hare plantation," Ayton, four or five years ago. And lastly, a LITTLE BITTERN, *Ardetta minuta* (L.), which had been picked up disabled, beneath the telegraph wires, near Eyemouth, on the 18th May 1904. It is in the female plumage. This is another addition to the "Birds of Berwickshire."

I should also like to record the following rare birds, which have been recently noticed in the district, viz.:—

THE GREY-LAG GOOSE, *Anser cinereus*, Meyer.

One was shot on Yarrow Slake, on 4th January 1903, by a local gunner, and came into my possession. It was one of a party, which originally consisted of five individuals, and which frequented the banks of the Tweed for some weeks. Another was shot, but was not preserved, and as I did not see it, it is only surmise that the flock may have been all of this species.

BITTERN, *Botaurus stellaris* (L.)

A Bittern was recorded in the newspapers as having been killed at Otterburn, on 2nd January 1904. It was a female, and was preserved.

SHAG, *Phalacrocorax graculus* (L.)

This bird is still a sufficiently rare visitor to Berwick to make it worth while recording that, on the afternoon of 28th December 1903, I saw one sitting upon the parapet of the pier. There was a very strong sea running at the time. The bird, which was in immature plumage, allowed us to approach it very closely before taking wing.

GREEN WOODPECKER, *Gecinus viridis* (L.)

I examined, in the possession of Mr William Hall, bird-stuffer, Wooler, an immature specimen of this (with us) very rare bird, in January 1904. It had been shot at Linhope, during the preceding autumn, as it was climbing about the posts of a garden fence.

GLOSSY IBIS, *Ibis Falcinellus* (Gmel.)

In the "Annals of Scottish Natural History" for January 1903, Mr A. Steel records an immature example of this rare bird, shot on the Tweed, about four miles below Kelso, on 17th November 1902; and as being within the limits of the Club, it seems only right to draw attention to the occurrence here.

ROSE-COLOURED PASTOR, *Pastor roseus* (L.)

One was shot by a Newcastle gentleman, at Holy Island, about the beginning of October 1903. From the description it appears to have been an adult, and it was in company with a flock of starlings when shot.

FULMAR PETREL, *Procellaria glacialis* (L.)

A nice adult specimen was picked up dead, at sea, off Holy Island, on 27th April 1903. It was quite fresh, of rather the pale variety, and was very poor and thin in condition.

RAVEN, *Corvus corax* L.

One flew high over my head on the morning of 22nd October 1903, as I stood on the bridge over the Till near Doddington. It was going in a northerly direction, and occasionally uttering a characteristic croak. Curiously enough, just a few minutes before, I had watched a Buzzard, referred to below, wing its way in the opposite direction. It is seldom indeed that one sees two such interesting birds at the same time.

On the 17th April 1904 I saw a single Raven soaring above the cliffs North of Burnmouth, and on the same afternoon heard another croaking about two miles further South, but so far as I am aware there was no nest hereabouts this year.

BUZZARD, *Buteo vulgaris*, Leach.

As mentioned above, I saw a bird of this species winging its way across the valley from Doddington Moor towards the Cheviots, on 22nd October 1903. It rose from the end of the hill, near the "Cuddy's Cove," and mounting to a considerable height, sailed away in gradually extending circles towards the South-west. As the Buzzard passed over them, great though his altitude then was, all the flocks of Rooks, Peewits, Gulls, and Starlings rose from the haughs and turnip-fields, where they were feeding, and hastened to get from beneath him, rather as it were out of respect for his presence than in actual fear, for they soon settled down again. One or two noisy Hoodie Crows, and a Black-backed Gull, which chanced to be passing, for a short time attempted to mount in pursuit; but the graceful ease with which the Buzzard soared above and away from them very quickly discouraged the attempt.

Late in the spring of 1904, a Common Buzzard was taken on the moors near Rothbury, and is preserved at Cragside.

ROUGH-LEGGED BUZZARD, *Archibuteo lagopus* (Gmel.)

There was quite a visitation of these fine birds to this country in the autumn of 1903, and a considerable number were killed, or seen, in our district. Early in November, four or five, or perhaps more, appeared on Holy Island, and remained a day or two, and one at least of them fell a victim to the gun of a visitor from Tyneside.

They appeared all to arrive together, and were at first very fearless, boldly venturing into the gardens and streets of the village, in pursuit of pigeons. One was shot while seated upon a stack devouring a rat.

WAXWING, *Ampelis garrulus*, L.

Although not nearly so numerous as in the autumn of 1901, a few Waxwings appeared in the district about the end of 1903. Two were shot at Twizell, near Belford; and on 6th January 1904, three were seen near Kylee, eating haws upon a high hedge, where they had been first noticed about two days previously.

SPOONBILL, *Platalea leucorodia* (L.)

About the end of May, or beginning of June, 1904, a Spoonbill made its appearance at Holy Island, and remained for some days, being generally seen about the side of the lough. It appeared to be in adult plumage, and was last seen on the 6th June.



SITE OF THE ANCIENT CHAPEL
AT OLD JEDWARD.





SCULPTURED STONES FROM OLD JEDWARD.

Interesting Archæological Discovery at Old Jedward. By
WALTER LAIDLAW, F.S.A. (Scot.), Jedburgh.

(PLATES I. AND II.)

IN April 1901, while Mr James Hall, tenant of Earlshaugh, along with two friends, was examining the ruins of the old church which stood by the side of the Jed on a level meadow called Chapelhaugh, they accidentally came upon four sculptured stones. Having been informed of the discovery, I went out and brought the stones to the Abbey, so that they might be preserved. Three of them have the chevron or zig-zag ornament. Parker, in his "Gothic Architecture," p. 75, says—"Norman ornaments are of endless variety. The most common is the chevron or zig-zag, and this is used more and more abundantly as the work gets later. It is found at all periods, even in Roman work of the third century, and probably earlier." There is the zig-zag ornament on both the West and South Norman doors, and on the arches in the choir of Jedburgh Abbey, where it is deep cut and exceedingly well executed, while the sculptured stones found at the Chapel at Old Jedward are shallow, and such as could have been done with an axe. Having submitted a photograph of the stones to an eminent architect, who is a good authority on Norman architecture, I was informed that they belonged to the early Norman period. With such reliable information, and from the many wrought stones found amongst the ruins, there is sufficient proof that the style of the architecture of the church has been early Norman.

Old Jedward is a place of great antiquity. In a foot note in the new edition of Chalmers' *Caledonia*, Vol. I., p. 426, we have this valuable information, which he gives us as a quotation:—"Smith's *Bede*, I., IV., cap. XXVI., app. No. II.; Simeon of Durham, col. 69-139. Eegred, the Bishop of Lindisfarne, who died in A.D. 845, built the two villages of Geddewarde and Geinforde, in Roxburghshire, with the churches thereof, which he gave to the bishopric, with other towns. *Anglia Sacra*, vol. I., p. 698." This place is thus referred to in Morton's "*Monastic Annals of Teviotdale*," p. 2:—"History of the Abbey of Jedburgh.—At the most ancient period to which the history of this place extends, we find that there were two Jedwards. The other was situated about four miles and a half further up the valley, where a small hamlet still retains the name of Old Jedburgh, and where there was formerly a church or chapel, the cemetery of which is still used as a place of interment. Both were built by Ezred, or Eegred, a man of noble birth and ample possessions, who was Bishop of Lindisfarne, or Holy Island, from the year 830 till his death in 845. In the history of that See, by Simeon of Durham, it is recorded that Bishop Eegred, among other liberal gifts with which he endowed the monastery at Lindisfarne, gave it the two villages, with whatever belonged to them, both called Jedworth, which he built himself in the district south of the Tweed." We have the place also mentioned in the "*New Statistical Account of Scotland*," p. 8:—"Antiquities.—At old Jedworth, about four miles above the present town, are the ruins of a chapel which was founded by Egred, Bishop of Lindisfarne, who died A.D. 845. It is situate amidst a clump of trees in a level field at the side of the river. Its walls have crumbled into mounds, and the tombstones in its churchyard are scarcely visible above the grass."

Interesting as is this sacred spot, it has attracted little attention in comparison with the more prominent and magnificent remains of the Abbey of Jedburgh. In Jeffrey's "*History and Antiquities of Roxburghshire*," Vol. II., p. 293, he gives the following interesting account:—"Old Jedworth.—The place which bears this name is situated on the left bank of the river Jed, about four miles from Jedburgh. It is

thought by many that a large town existed here at an early period, of which a farm-onstead and the ruins of a small chapel are the only remains." Chalmers states that "on the West bank of the Jed, in the middle of a vast forest, Egred, the Bishop of Lindisfarne, who died A.D. 845, built a village, which he named Gedworth, and a church for his village. Even before the age of the beneficent David I., another village of the same name, with a church and a castle a few miles lower down on the Jed, had arisen, and had eclipsed the ancient hamlet. At New Jedburgh David founded a house for the monks of St. Augustine." I doubt if there is any authority for holding that the hamlet on the Jed is older than the burgh. It is no doubt true that the locality of the ruined chapel is called Old Jedworth, but that appellation has been conferred on it in modern times, without reference to its being founded anterior to the existence of the royal burgh. It is believed that long before David's day, Jedburgh was a weath, or town, of considerable importance, with a religious establishment presided over by a Prior, who was afterwards venerated as a saint. On David succeeding to the territory at his brother's death, the town was fortified by a castle. In his charter to the monks, granting them the multure of his mill of Jedworth, he takes care to distinguish the town from the castle—"ubi castellum est." The same expressions are used in Earl Henry's grant, and in the charter of King William. When Edward of England granted the forest of Jedburgh to Percy, he also distinguished the town with the castle from the other Jeddeworthe and Bonjedworth. It seems probable that the town at the castle was first founded, and on account of its situation became at an early period a royal residence, while the place called Old Jedworth consisted merely of a few houses gathered together in the neighbourhood of "the chapel, which was founded in the forest glade, opposite Zernwingslawe. The situation is one of great beauty, in the middle of one of the little haughs formed by the windings of the river Jed as it flows down the valley from the Border mountains. The only remains of this little chapel, in which the rude forefathers of the hamlet worshipped, are a few of the foundation stones, which have escaped being carried away to repair the farm-onstead or dykes, and a number of ash trees growing

on the line of the wall. The form and dimensions of the chapel cannot now be ascertained. The traces of small buildings are still to be seen on the South side of the chapel; and about fifty yards from it, in the same direction, a large solitary ash tree stands as a sad memorial of the houses which once existed near it. It is probable that this tree marks the limit of the chapel-buildings on the South. It is about eight feet in circumference. The little graveyard on the North can be distinctly traced by a line of ash trees. There are no tombstones to tell the names of those who sleep in this holy place, but certain it is that within the line of ash trees repose the ashes of many gallant men who made their way resistless among a thousand foes. No doubt the tombstones have met the same fate that befell the stones of the chapel."

I have given these quotations to show the historical and antiquarian importance of the place, and that no mention has been made of any sculptured stones having been found there previously, or any attempt to describe the style of the architecture of the church. On this account the recent discovery seems to me all the more interesting and valuable. Mr Hall mentioned to me that he remembered a portion of the wall of the church on the South-east which has crumbled down within a few years. Jeffrey, it will be observed, mentions a large solitary ash tree on the South side of the chapel, and says it was about eight feet in circumference. I find it measures now eleven feet in circumference at the height of three feet from the ground, and thirteen feet six inches one foot from the ground, while trees on the line of the walls of the old churchyard measure respectively 11 feet, 9 feet 9 inches, and 9 feet 4 inches in circumference.

CHAPEL AT OLD JEDWARD.

(PLATE I.)

THIS plate is illustrative of the paper by Mr Walter Laidlaw, F.S.A. (Scot.), on an "Interesting Archæological Discovery at Old Jedward," included in the present volume. It supplies the site of the ancient church there (2), the position of the churchyard (3), and the station of the solitary ash tree (4), which is referred to as marking the possible boundary to the South of the chapel-buildings.



SCULPTURED STONES FROM OLD JEDWARD.

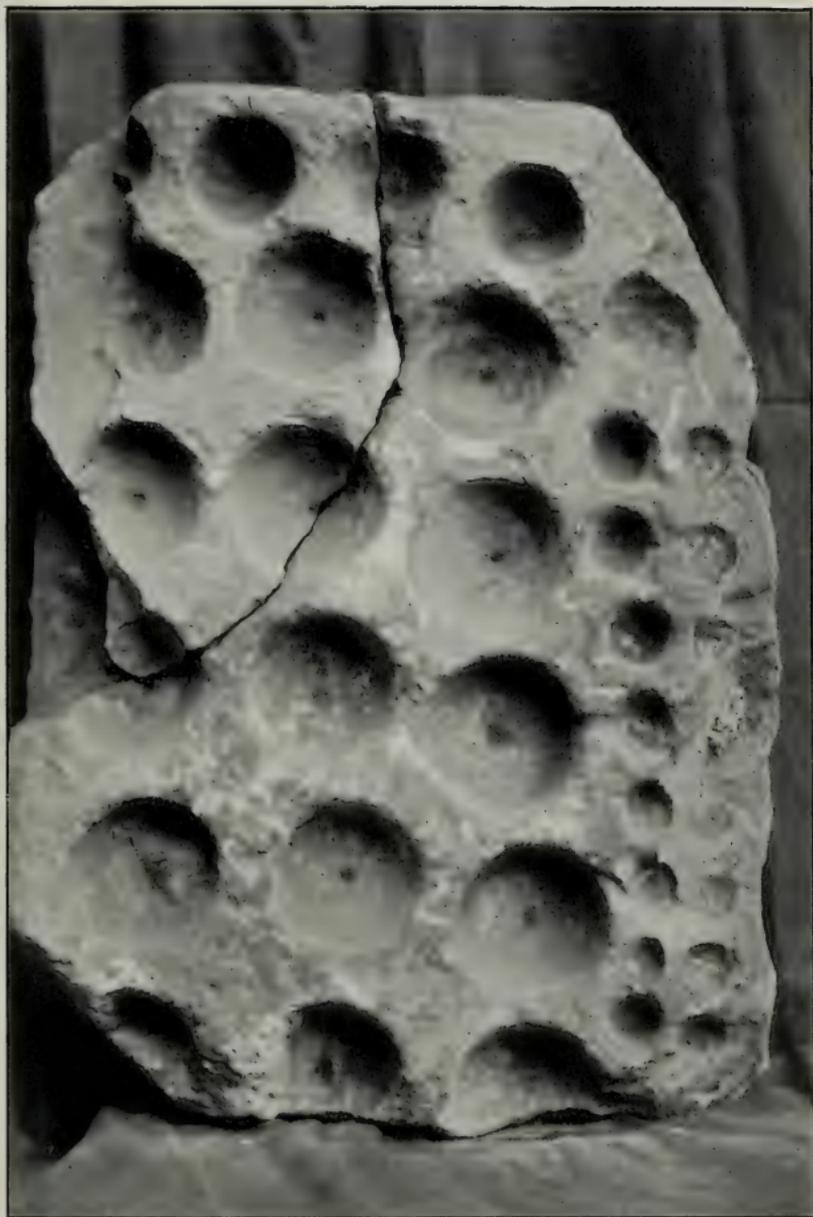
(PLATE II.)

THE stones here figured were discovered by Mr James Hall, tenant of Earlshaugh, among the ruins of the ancient chapel at Old Jedward, and were transferred to Jedburgh Abbey by Mr Walter Laidlaw, F.S.A. (Scot.), for comparison with those of that more stately building. On being submitted to an eminent architect, they were pronounced to belong to the early Norman period, the chevron or zig-zag pattern being one of its commonest decorative features.

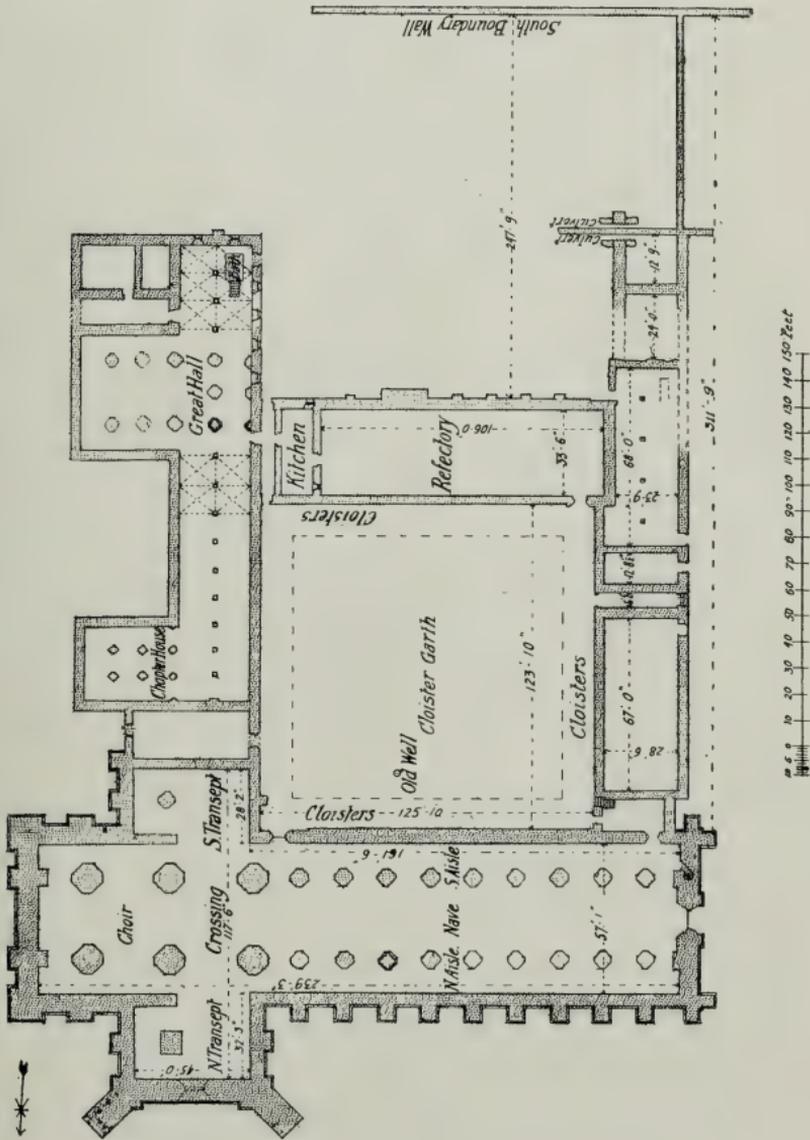
MATRIX DISCOVERED IN CANONGATE,
JEDBURGH.

(PLATE III.)

IN the course of removing an old foundation in the Canongate of Jedburgh, a workman came upon the stone here reproduced, which was at once taken possession of by Mr Walter Laidlaw, F.S.A. (Scot.), ever ready, in the cause of antiquarian research, to add to the treasures at the Abbey. A photograph of it was accordingly forwarded to the Curator of the British Museum, with the suggestion that at one time it might have been used as a mould for cannon-balls. In reply, it was stated that this conjecture was correct. Since its discovery, one such ball at least has been found in the neighbourhood. The matrix, which is of sandstone, measures one foot nine inches in height by one foot six inches in width. The largest cavity is three inches in diameter. The portion of it figured is all that has been discovered.



MATRIX DISCOVERED IN CANONGATE,
JEDBURGH.



PLAN OF EXCAVATED REMAINS OF NEWBATTLE ABBEY, MIDLOTHIAN.

Plan of Excavated Remains of Newbattle Abbey, Midlothian.
 Founded by David I. 1140; burnt by Richard II. 1385,
 and by the Earl of Hardford 1544. By JOHN RAMSAY,
 Newbattle.

(PLATE IV.)

ABBAY CHURCH.

WALLS (outside)—Extreme length	...	...	...	253 ft. 3 in.
„ (inside) „ length	...	...	...	239 ft. 3 in.
„ (outside) „ width	...	...	...	66 ft. 7 in.
„ (inside) „ width	...	...	...	57 ft. 1 in.
NAVE—Length	...	...	...	161 ft. 6 in.
„ Width	...	...	...	31 ft.
CHOIR AND CROSSING—Length	...	...	...	41 ft. 9 in.
CHANCEL—Length	...	...	...	36 ft.
AISLES—Width	...	...	...	13 ft. 0½ in.
N. AND S. TRANSEPTS—Extreme width between				} Inside walls.	
N. TRANSEPT—Length, East to West					117 ft. 6 in.
S. „ Length, East to West					45 ft.
N. „ Length, North to South					45 ft.
S. „ Length, North to South					32 ft. 3 in.
				28 ft. 2 in.	
NORTH WALL of North Transept	...	...	...	8 ft. thick.
ANGLE BUTTRESSES at North Transept	...	16 ft. 4 in.	by 10 ft. 4 in.		
CORNER BUTTRESSES at East End	...	12 ft. wide	by 3 ft. deep.		
BUTTRESSES North and South of Chancel	...	8 ft. „	by 3 ft. deep.		
„ East of Chancel	...	6 ft. „	by 3 ft. deep.		
BASE of 4 Pillars supporting Tower (octagon)	...	10 ft.	by 10 ft.		
„ of 2 Pillars in Chancel	...	10 ft.	by 10 ft.		
„ of Pillar in North Transept (square)	...	8 ft. 3 in.	by 7 ft. 10 in.		
REFECTORY—Extreme length inside	...	...	...	106 ft.
„ Extreme width inside	...	...	...	33 ft. 6 in.
KITCHEN—	33 ft. 6 in.	by	12 ft. 6 in.		
CLOISTER QUADRANGLE—	125 ft. 10 in.	by	123 ft. 10 in. (inside)		
CHAPTER HOUSE—Extreme length inside	...	...	...	57 ft.
„ Extreme width inside	...	...	...	26 ft.
GREAT HALL—Extreme length inside	...	...	...	144 ft.
„ Extreme width inside	...	...	...	43 ft.

*Measurements of the Great Beech Tree at Newbattle Abbey,
Midlothian, 25th August 1903.* By JOHN RAMSAY,
Newbattle.

(PLATE V.)

Girth at the Ground	...	...	...	43 ft. 8 in.
„ about 1 ft. above Ground	...	...	...	37 ft.
„ „ 2½ ft.	„	...	...	27 ft. 8 in.
„ „ 3 ft.	„	...	...	25 ft. 9 in.
„ „ 4 ft.	„	...	...	23 ft. 1 in.
„ „ 4½ ft.	„	...	...	21 ft. 11 in.
„ „ 5 ft.	„	...	...	20 ft. 3 in.
„ „ 6 ft.	„	...	...	19 ft. 7 in.

The ground measurement was taken by allowing the tape to lie on the roots as near to the uprising of the buttresses as possible, and is necessarily vague.

The measurement at 6 ft. to 6½ ft. above the ground is the most correct, being taken on a line marked at intervals with white paint for future comparison.

The circumference of the foliage is fully 400 feet; its diameter averages 130 to 140 feet; and its total height reaches 112 feet.

The branches hanging down to the ground have taken root, and are growing upwards.

I append the girths of a few of the main branches, as well as of those growing up from said branches, but with their own roots attached to the ground.

- No. 1 Branch, girth 1 ft. 10 in., with 2 branches springing up from it, 4 ft. 5 in. each in girth.
- No. 2 Branch, girth 1 ft. 8 in., with 3 branches springing up from it, one 5 ft. 5 in., one 5 ft. 1 in., one 1 ft. 11 in. in girth.
- No. 3 Branch, girth 12½ in., with 3 branches springing up from it, one 4 ft. 7½ in., one 24½ in., one 4 ft. 4 in. in girth.
- No. 4 Branch, girth 12 in., with 2 branches springing up from it, one 2 ft. 8½ in., one 12 in. in girth.
- No. 5 Branch, girth 1 ft. 7 in., with 3 branches springing up from it, one 2 ft. 4½ in., one 12 in., one 1 ft. 6 in. in girth.
- No. 6 Branch, girth 2 ft. 4 in., with 5 branches springing up from it, one 4 ft. 4 in., one 3 ft. 8 in., one 4 ft., one 3 ft. 4 in., one 1 ft. 11 in. in girth.



GREAT BEECH TREE AT NEWBATTLE ABBEY.
MIDLOTHIAN.

Schedule of Manuscripts belonging to the late Dr Hardy, and relating to Northumberland. Arranged, at the request of the Club, by J. C. HODGSON, F.S.A., Alnwick.

- 1.—Historical extracts relating to the Northern part of the County from Testa de Nevill, arranged by Dr Hardy under Townships.
- 2.—Extracts relating to Northumberland from Pipe Rolls. Hen. I. and II.
- 3.—Transcripts from Hodgson—*Northumberland*.
Hodgson Hinde—*Northumberland*.
Gibson—*Tynemouth*.
- 4.—Transcripts from Hodgson—*Northumberland*, comprising Bowes—"Survey of Borders"; list of strongholds in 1460: Book of Rates, 1663: and Ecclesiastical Inquest of 1660.
- 5.—Transcripts and abstracts from Gibson—*Tynemouth*, concerning Wooler and district.
- 6.—Extracts from the *Titular Barony of Clavering*.
- 7.—Transcripts and documents, printed and unprinted, collected for the Ford Tithe Suit.
- 8.—Abstracts from Selby Charters at Biddleston (printed).
- 9.—Eleven 8vo. Note-books, containing Dr Hardy's gatherings concerning the following Townships:—
Shawdon, Fawdon, Shotton, Netherwitton, Ford, Holystone, Hethpool, Paston, Brinkburn, Roddam, Mindrum, Beadnell, Clennel.
- 10.—Eight 8vo. Note-books, containing Dr Hardy's notes on Northumberland genealogies, chiefly transcribed from Hodgson—*Northumberland*.

- 11.—Two 8vo. Note-books, relating to High and Low Buston Townships (contents printed in Club's Transactions).
- 12.—Manuscript of Mr Culley's account of Coupland and Akeld (printed in Club's Transactions).
- 13.—Note-book containing Dr Hardy's gatherings and material for the history of North Charlton (used in his paper printed in Club's Transactions).
- 14.—Note-book (8vo.) containing Dr Hardy's gatherings on "The Ancient Farm," and other Northumberland land tenures.
- 15.—A small portfolio containing Dr Hardy's material for an account of Swarland.
- 16.—Four 8vo. Note-books containing Dr Hardy's gatherings for Whittingham and Glanton, Mitford, Felton and Framlington.
- 17.—(a) Notes on Wright, the historian of Hexham.
(b) Barmoor Nonconformist Church (printed).
(c) Miscellaneous notes on Longhoughton, Ilderton, Bolton, etc.
- 18.—Envelopes containing notes on Elsdon, Lemington, Aydon Castle, pedigree of Ogle of Eglington, and pedigree of Burn of Berwick.
- 19.—A few drawings and tracings from prints.
- 20.—Manuscripts of Mr Tate:—
 - (a) History of Lesbury (printed).
 - (b) Do. of Longhoughton (printed).
 - (c) Jottings relating to Rothbury parish.
 - (d) Do. relating to Rothbury Church and certain incised rocks.
 - (e) Jottings relating to Shilbottle parish.

OBITUARY NOTICE.

Middleton Henry Dand of Hauxley.

By JOHN CRAWFORD HODGSON, F.S.A., Alnwick.

“As ripe fruit is lightly, and without violence, loosened from its branch, the soul departs ungrieving from the body wherein its life’s experience hath lain.”—CICERO.

MR MIDDLETON HENRY DAND, an honoured and respected member of the Club, died at his residence, Hauxley Cottage, Northumberland, on the 16th January 1903, at the great age of 91 years. He was elected a member of the Club on the 28th June 1859, but he had, for many years before he became a member, taken a deep and intelligent interest in the Natural History and Antiquities of the county of Northumberland.

Mr Dand was born at Chevington Woodside, in the parish of Warkworth, on the last day of 1811. He was the son of James Dand, a native of Bedlington, and youngest of three brothers descended from a line of Bedlingtonshire yeomen. His mother was Sarah, daughter of Brignell Grainge of Sunnyside, in the parish of Whickham, co. Durham, and, in her issue, co-heiress of her brother Middleton Grainge of the same place. Through these maternal ancestors, Mr Dand was descended from the Middletons of Seaton, Silksworth, and Belsay.

A child of the age of six at his mother's death, a youngest child, and having a constitution far from robust, Middleton Dand was in a special and peculiar way the charge of his eldest sister and of their father. At an unusually early age he was sent to a small country day school at the neighbouring hamlet of Broomhill—now an important colliery village—kept by a certain Christopher Hills, and in 1822 was transferred to a private school at Alnwick, kept by John Pears—a harsh and unsympathetic schoolmaster. The latter ruled his pupils with such severity that the subject of our notice—accompanied by a class-mate, Edward Tindal—ran away, but near Hawkhill, only two or three miles from Alnwick, was recaptured and taken back to school.

In 1824 Middleton Dand was sent to the well-known school, founded by the famous Bernard Gilpin, at Houghton-le-Spring, co. Durham, the head master of which at that time was the distinguished and justly esteemed Rev. William Rawes. In after life his pupil always spoke of Mr Rawes with affection and respect, and used to say that his was the first dead face he ever looked upon. Mr Rawes' engraved portrait still hangs in the dining-room at Hauxley.

Amongst Mr Dand's contemporaries at Houghton were Mr Thomas Harrison (the well-known engineer of the North Eastern Railway), Mr Dacre Wright, Mr Samuel Laing of Kirkwall (afterwards a member of Parliament, and a distinguished civil servant of the Crown), and sons of Lord Hopetoun, Sir John Hope, Pringle of Stichel, Reed of Old-town, Ironside of Houghton, etc.

After leaving Houghton in 1826, Mr Dand assisted his father and uncles in the management of their extensive farming concerns on their own estates at Gloster Hill, Hauxley, Togston Hall, and Amble New Hall, and on their hired farms of Chevington Woodside, Amble Hope, etc.

His father, having relinquished Chevington Woodside at May-day 1833 to his second son, retired with his youngest son to his own estate at Hauxley, in which village Mr M. H. Dand continued to reside until the day of his death, first at the Cottage, afterwards at the Hall, and again at the Cottage.

A well-known and popular rider after the hounds, Mr Dand used to tell that his first meet was on St. Stephen's day 1827, at the four cross roads at Ellington, where and on which day the hounds kept by Mr Frank Johnson of Woodhorn were accustomed annually to meet. But his memory carried him still further back, for although not present on the occasion he remembered the stormy April day in 1817, when, under a tree in the corner of a field near the ford over the Tod-burn, Felton, Mr Ralph Lambton took his farewell of the field. Mr Dand's love of fox-hunting gave him the opportunity of acquiring an unequalled knowledge of the district, and an inexhaustible fund of local information. He continued to hunt regularly until his wife's death in 1885, and occasionally for a few years afterwards. The last time he rode to the hounds was in 188 . . .*

On his father's death in 1844, Mr Dand succeeded to the Hauxley Cottage and Amble Moor-house estates, and, although of a retiring and unobtrusive disposition, took his due share in public duties, as Guardian of the Poor, Chairman of Amble Local Board of Health, Justice of the Peace, etc.

* It is to be regretted that Mr Dand never put his hunting reminiscences on paper. In his father's time there was a scratch pack, belonging chiefly to local farmers, some of whom kept a hound or two; his father's hound was old 'Driver.' The hounds were sometimes taken up to Simonside, so early in the morning that the hunt was over before 10 o'clock, the hounds being left to find their way to their respective homes. Mr Robert Lisle of Acton set up a pack at the beginning of the nineteenth century, the hunt buttons having as a motto 'ouse whick'; and he was followed in 1812 by Mr Smith of Thirston with a subscription pack. Hounds were kept by Mr Francis Johnson of Woodhorn, who was followed by Mr Watson of North Seaton. The Rev. James Allgood kept harriers when he was vicar of Felton. North of the Coquet there were the hounds of Mr Henry Taylor of Doxford—called the Doxford Hounds—Mr Selby of Biddleston, and afterwards those of Mr John Gray of Titlington, on whose retirement, in 1867, the Alnwick hounds were started, and were managed by a Committee, Mr Dand being an active member and principal supporter.

His interest in the Lifeboat Service was unfailing, and in 1852 he was awarded a silver medal for his special services* in the rescue of a shipwrecked crew at Amble, in a coble, after the lifeboat had drifted back to the shore disabled.

In our own island Mr Dand travelled much, and in 187 . . visited Denmark and North Germany, returning much impressed with what he had seen of the pre-historic remains of Jutland. In 1892, accompanied by the writer of these lines, he visited the Western coast of Norway, when he was as greatly impressed by the evidence of the good conduct and intelligence of the inhabitants as with the grandeur of the scenery. In the following year, again accompanied by the writer, he paid his first and only visit to Ireland, traversing the island from Dublin to Belfast, from Dublin to Galway, and from Galway by Limerick to Cork, returning to Northumberland by way of Bristol and London.

In the possession of the writer is a copy of some verses written by Mr Dand in 1832, entitled "An Excursion to Brinkburn," but it is to be regretted that he never contributed any finished paper to the Club's Transactions, and that he never occupied the office of President. His copy of Brockett's *Glossary of North Country Words*, with his innumerable emendations, was placed at the disposition of Mr R. O. Heslop, and was extensively used and quoted by him in his admirable work, published in 1893, under the title of *Northumberland Words*.† The valuable help which he rendered in the preparation of the fifth, or Warkworth, volume of the new History of Northumberland, is acknowledged in the preface of that volume.

* The medal bears the following inscription:—(round the edge) 'Middleton Dand, Esq., voted 14th October 1852'; (on reverse) 'The Royal National Institution for the Preservation of Life from Shipwreck, George the Fourth Patron, 1824'; and on the clasp, 'Second Service, voted 2nd February 1854.'

† Almost up to the time of his death queries were addressed to Mr Dand in connection with the *English Dialect Dictionary* of Professor Wright, now in course of publication. In this work Mr Dand's name appears in the List of Contributors, and in the body of the work his notes are indicated by the bracketed initials [M.H.D.]

His well selected library, consisting principally of works of reference, contained such books as Dugdale, *Monasticon*, Hodgson, *Northumberland*, the new *History of Northumberland*, Raine, *North Durham*, Sidney Gibson, *Tynemouth*, a black letter Chaucer, the Surtees Society Publications, and an adequate philological equipment of dictionaries in various languages.

Mr Dand, at the time of his death, was a widower, and without issue.

This is not the place to speak of the deeper feelings and the inner life of the man, nor of his adoption as his rule in life of the words of the Prophet Micah:—

“What doth the Lord require of thee, but to do justly, and to love mercy, and to walk humbly with thy God?”

OBITUARY NOTICE.

Mrs Barwell Carter.

By COMMANDER F. M. NORMAN, R.N.

By the death, on January 7th 1903, aged 81 years, of Mrs Jane Barwell Carter, our Club lost an old honorary member, a true friend, and a notable link with its early history, as she was the last surviving daughter of that eminent Naturalist and Author, Founder, First President of the Club, and for so many years its leading spirit, George Johnston, M.D., Fellow of the Royal College of Surgeons of Edinburgh.

Miss Jane Johnston, in 1848, married Mr Robert Barwell Carter, only son of William Barwell Carter, M.D., of the 8th Hussars. After her husband's death, three years after her marriage, Mrs Carter resided for a considerable time in Edinburgh; and finally, in 1871, settled down in her late father's house in Woolmarket, Berwick-upon-Tweed, which she designated "The Anchorage," where she spent the remainder of her life. The house became famous on account of its many interesting associations with the learned Doctor, and relics left by him, which included MSS. of his well-known works, "Flora of Berwick-on-Tweed" (1829, 2 vols.); "History of British Zoophytes"; and that most charming and instructive of all books of the sort that ever were written, "Natural History of the Eastern Borders" (1853, 1 vol.)

Mrs Carter, who was a woman of small stature, but of large mind, extensive reading, and refined and cultivated literary tastes, lived a very quiet, retired life, occupying herself principally with her books and her pen. Her eyesight was so good that she was able to read without glasses till the last.

Once a year, on the day of the Business Meeting of the Club, her house was open to members, who gladly availed themselves of a chat with their hostess, inscribed their names in her Club-visitors' book, and inspected some of her treasures, among which were many of the original drawings for the illustration of her father's publications, beautifully executed by Mrs George Johnston. On such occasions the set of valuable and artistic paintings of the British Flora, by Miss Dickinson of Norham, were generally also exhibited by their talented painter.

In 1892 Mrs Carter edited a bulky volume, "Correspondence of George Johnston," the preparation of which by her was a labour of much love and interest. Her only brother, Commander Patrick Johnston, R.N., died in New Zealand in 1890; and one of her two sisters married the well-known and much beloved Philip Maclagan, M.D., of Berwick, an older brother of the present Archbishop of York.

Mrs Carter was an intimate friend and constant correspondent of our late Secretary, Dr Hardy, and she had the prosperity of our Club always much at heart.

She was laid beside her husband in the family vault in the burying ground of St. John's Episcopal Church, Edinburgh.

Account of Rainfall in Berwickshire—Year 1903.

By JAMES HEWAT CRAW, West Foulden, Berwick-on-Tweed.

LOCALITY.	Hirsel.	St. Abbs.	Whitsome Hill.	West Foulden.	Manderston.	Cowdenknowes	Marchmont.	Duns Castle.
Height above sea-level.	94 ft.	200 ft.	250 ft.	250 ft.	220 ft.	360 ft.	500 ft.	500 ft.
January.	3.43	2.40	3.39	3.40	3.91	4.03	3.55	3.57
February	2.48	3.44	3.01	3.01	2.93	4.02	3.71	3.30
March	1.82	1.67	1.99	1.43	2.09	3.06	2.53	2.36
April	1.16	0.57	1.04	1.23	1.36	1.39	1.30	1.92
May	1.00	1.04	0.94	1.26	1.35	1.50	1.67	1.60
June	1.71	1.49	1.93	1.82	1.99	1.45	1.90	2.37
July	4.73	5.87	4.56	5.33	5.14	4.25	4.90	5.40
August	2.93	2.94	3.54	3.32	3.77	3.64	4.36	4.28
September	2.28	1.76	2.55	2.63	2.48	2.80	2.84	2.67
October	6.58	6.58	6.48	6.61	7.06	8.27	7.82	7.93
November	1.68	2.45	1.53	1.65	1.37	1.87	1.77	1.71
December	1.72	1.52	1.64	1.55	1.69	1.55	2.14	1.86
Total	31.52	31.73	32.60	33.24	35.14	37.83	38.49	38.97

Meteorological Observations at Cheswick. By the late MAJOR-GENERAL SIR WILLIAM CROSSMAN, K.C.M.G., and continued by his son, L. MORLEY CROSSMAN, ESQ. Extracted by GEORGE BOLAM, F.Z.S.

Lat. 55° 42' 37" N. Long. 1° 57' 29" W. One mile from and 100 feet above sea.
Thermometer 4' above ground—shaded.

Rain Gauge—Diameter of Funnel, 5". Height of top above ground, 7½".

1900 MONTH	TEMPERATURE.						RAINFALL.			DIRECTION OF WIND.			
	Absolute.		Averages.			No. of days 32° or under.	Total No. of inches during month	Greatest fall in 24 hours, and date.	No. of days .01 in. or more fell.	N.	E.	S.	W.
	Max.	Min.	Max.	Min.	Mean					to to	to to	to to	to to
	Deg.	Deg.	Deg.	Deg.	Deg.	E. S.	S. W.	W. N.	No. of Days.				
Jan.	55	26	44.4	34.0	39.2	11	2.87	.69 on 2nd	20	7	4	15	5
Feb.	53	14	39.5	27.6	33.6	22	4.89	1.13 on 19th	23	5	8	4	11
March	55	14	46.0	31.9	38.9	14	2.38	.36 on 18th	17	8	2	2	19
April	75	28	56.3	37.4	46.8	5	1.11	.22 on 3rd and 11th	10	7	4	12	7
May	74	35	60.6	42.3	51.4	—	1.16	.35 on 6th	9	10	4	9	8
June	78	41	66.8	48.1	57.5	—	2.83	.94 on 24th	14	8	6	7	9
July	82	41	73.0	53.0	63.0	—	1.62	.49 on 9th	16	5	3	12	11
Aug.	78	38	66.3	49.0	57.6	—	4.33	.88 on 6th	17	8	5	8	10
Sept.	74	35	66.3	45.2	55.7	—	1.16	.47 on 7th	11	1	5	14	10
Oct.	64	28	55.4	39.4	47.4	6	4.39	1.27 on 27th	20	2	3	14	12
Nov.	63	29	49.3	37.9	43.6	6	3.98	.90 on 3rd	22	8	9	5	8
Dec.	62	29	48.6	38.8	43.7	2	2.15	.70 on 6th	18	3	6	17	5
Totals						66	32.87		197	72	59	119	115

Meteorological Observations at Cheswick. By the late MAJOR-GENERAL SIR WILLIAM CROSSMAN, K.C.M.G., and continued by his son, L. MORLEY CROSSMAN, Esq. Extracted by GEORGE BOLAM, F.Z.S.

Lat. 55° 42' 37" N. Long. 1° 57' 29" W. One mile from and 100 feet above sea.
Thermometer 4' above ground—shaded.

Rain Gauge—Diameter of Funnel, 5". Height of top above ground, 7½".

1901 MONTH	TEMPERATURE.						RAINFALL.			DIRECTION OF WIND.			
	Absolute.		Averages.			No. of days 32° or under.	Total No. of inches during month	Greatest fall in 24 hours, and date.	No. of days '01 in. or more fell.	N.	E.	S.	W.
	Max.	Min.	Max.	Min.	Mean					to to	to to	to to	to to
Deg.	Deg.	Deg.	Deg.	Deg.					No. of Days.				
Jan.	55	21	43·8	32·1	37·9	19	2·09	·57 on 30th	16	0	11	13	7
Feb.	47	21	42·5	30·7	36·6	21	1·93	·33 on 24th	21	2	2	2	22
March	59	19	47·3	32·7	40·0	12	1·37	·25 on 7th	15	9	4	8	10
April	74	27	56·4	36·4	46·4	9	1·22	·24 on 27th	13	5	6	13	6
May	70	33	61·4	40·7	51·0	—	2·26	·66 on 26th	13	15	3	2	11
June	74	38	67·3	45·2	56·2	—	1·07	·33 on 17th	8	5	1	11	13
July	84	42	74·5	53·4	63·9	—	1·61	·60 on 21st	10	10	3	2	16
Aug.	83	40	70·2	49·9	60·1	—	2·30	·64 on 10th	12	4	4	6	17
Sept.	74	42	64·5	49·8	57·1	—	1·09	·32 on 17th	13	7	8	8	7
Oct.	69	29	56·2	39·0	47·6	6	1·58	·43 on 3rd	14	2	6	12	11
Nov.	56	21	48·1	34·7	41·4	11	3·58	·86 on 9th	11	3	2	8	17
Dec.	53	24	41·0	31·8	36·4	21	3·53	·64 on 18th	17	3	2	10	16
Totals						99	23·63		163	65	52	95	153

Meteorological Observations at Cheswick. By the late MAJOR-GENERAL SIR WILLIAM CROSSMAN, K.C.M.G., and continued by his son, L. MORLEY CROSSMAN, ESQ. Extracted by GEORGE BOLAM, F.Z.S.

Lat. 55° 42' 37" N. Long. 1° 57' 29" W. One mile from and 100 feet above sea.
Thermometer 4' above ground—shaded.

Rain Gauge—Diameter of Funnel, 5". Height of top above ground, 7½".

1902 MONTH	TEMPERATURE.						RAINFALL.			DIRECTION OF WIND.			
	Absolute.		Averages.			No. of days 32° or under.	Total No. of inches during month	Greatest fall in 24 hours, and date.	No. of days .01 in. or more fell.	N.	E.	S.	W.
	Max.	Min.	Max.	Min.	Mean					to	to	to	to
	Deg.	Deg.	Deg.	Deg.	Deg.	E.	S.	W.	N.				
										No. of Days.			
Jan.	53	16	44·3	32·5	38·4	12	1·21	·63 on 20th	9	0	1	15	15
Feb.	56	13	40·4	27·5	34·0	16	·97	·29 on 28th	14	6	8	2	12
March	62	25	50·5	35·2	42·9	9	·91	·15 on 24th	17	3	2	17	9
April	64	28	55·0	35·3	45·1	6	1·98	·63 on 15th	13	6	5	4	15
May	75	32	55·6	39·3	47·4	3	2·63	·78 on 30th	20	3	1	6	21
June	75	40	61·1	45·9	53·5	—	2·53	·59 on 6th	16	7	5	1	17
July	78	36	67·0	47·1	57·1	—	1·85	1·07 on 26th	13	5	1	10	15
Aug.	77	35	65·5	45·6	55·5	—	1·56	·51 on 18th	13	8	4	4	15
Sept.	78	33	63·7	45·6	54·6	—	·64	·10 on 4th	13	3	6	7	14
Oct.	63	30	56·7	42·1	49·4	2	·94	·33 on 10th	15	9	0	10	12
Nov.	60	30	50·0	38·6	44·3	6	1·33	·44 on 8th	13	1	18	10	1
Dec.	59	22	45·2	35·8	40·5	6	2·69	·97 on 1st	15	3	10	16	2
Totals						60	19·24		171	54	61	102	148

Meteorological Observations at Cheswick. By the late MAJOR-GENERAL SIR WILLIAM CROSSMAN, K.C.M.G., and continued by his son, L. MORLEY CROSSMAN, Esq. Extracted by GEORGE BOLAM, F.Z.S.

Lat. 55° 42' 37" N. Long. 1° 57' 29" W. One mile from and 100 feet above sea.
Thermometer 4' above ground—shaded.

Rain Gauge—Diameter of Funnel, 5". Height of top above ground, 7½".

1903 MONTH	TEMPERATURE.						RAINFALL.			DIRECTION OF WIND.			
	Absolute.		Averages.			No. of days 32° or under.	Total No. of inches during month	Greatest fall in 24 hours, and date.	No. of days .01 in. or more fell.	N.	E.	S.	W.
	Max. Deg.	Min. Deg.	Max. Deg.	Min. Deg.	Mean Deg.					to to	to to	to to	to to
Jan.	52	17	41·3	32·7	37·0	16	3·51	1·08 on 9th	14	2	7	17	5
Feb.	54	29	47·8	38·5	43·2	2	2·22	1·15 on 8th	13	0	1	20	7
March	58	28	49·6	37·3	43·4	5	·80	·18 on 9th	13	1	7	20	3
April	62	26	51·9	34·1	43·0	12	1·23	·49 on 14th	12	5	2	7	16
May	73	34	58·3	41·1	49·7	—	1·03	·21 on 1st	13	13	2	6	10
June	75	35	63·1	46·3	54·7	—	1·74	·32 on 16th	13	17	4	4	5
July	80	38	66·2	49·2	57·7	—	6·46	1·09 on 18th	19	4	3	5	19
Aug.	71	40	66·2	47·2	56·7	—	3·47	·98 on 1st	20	4	3	14	10
Sept.	72	32	62·1	45·2	53·6	1	2·46	1·09 on 2nd	16	2	12	7	9
Oct.	68	31	55·0	42·3	48·7	1	6·18	1·65 on 8th	25	3	10	13	5
Nov.	57	25	48·5	34·8	41·6	12	2·33	·45 on 28th	15	0	1	10	19
Dec.	53	21	41·9	30·6	36·2	21	1·71	·32 on 13th	19	0	13	9	9
Totals						70	33·14		192	51	65	132	117

General Statement of Accounts, 1903.

INCOME.

	£	s.	D.	£	s.	D.
Balance in hand brought forward				163	9	4
36 Arrears paid up	21	7	0			
16 Entrance Fees	8	0	0			
286 Subscriptions	143	10	0			
				172	17	0
Back Numbers Sold				2	2	0
				£338 8 4		

EXPENDITURE.

Printing Proceedings (1901) ..	151	5	2			
Plates .. (part only)	0	18	0			
Postages, etc.	5	9	9			
Expenses at Meetings	9	12	0			
Carriages on Donations to Club, etc.	0	17	0			
Salmon Account	5	4	3			
Berwick Museum	3	10	0			
Balance in hand	161	12	2			
				£338 8 4		

8th October 1903.

PRESENTED

4 OCT. 1905



ERRATA.

Page 26, line 2 from top—for “June” read “July.”

Page 44, line 17 from top—for “colonised” read “colonized.”

Page 79, line 3 from top—for “Hardford” read “Hertford.”



History of the Berwickshire Naturalists' Club.

VOL. XIX. PART II.—1904.



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PROCEEDINGS

OF THE

BERWICKSHIRE NATURALISTS' CLUB.

*Address delivered to the Berwickshire Naturalists' Club
at Berwick, 13th October 1904. By G. G. BUTLER,
M.A., F.G.S., Ewart Park, Wooler.*

LADIES AND GENTLEMEN,

This Club has now completed seventy-three years of existence. Its first meeting was held, as **Statement of Aims.** you know, on September 22nd 1831. In addressing you on my retirement from the office of President, I would like to recall to you, what is doubtless not forgotten, that though we name ourselves (shortly) the "Berwickshire Naturalists," our aim as a Club was at the very beginning, and has

continued to be, the study of Natural History and Antiquities in the Border district. Possibly the shortening of our title for common use, so as to drop the word "antiquities," may, at times, have been misleading to those at least who are not members of the Club. Possibly some of us, even within our own circle, may have now and then felt that a diversity of aim was caused or implied by this combination of studies—Natural History on the one side, Antiquities on the other. The subjects treated in past Presidential addresses, and in the Club's records, do certainly cover a wide ground, and present a diverse array. And yet our Society continues a harmonious body, individuals with widely different tastes and occupations working together in the most friendly way. If I do not now attempt what is, indeed, beyond my powers, a solid disquisition on some one branch of the many sciences which our Club embraces, but if I rather venture to make a few remarks of a general nature, in an informal way, before submitting to you a few notes on Ewart and its neighbourhood, I hope to meet with your kindly tolerance.

This very word "antiquities" suggests several questions. How many years, what lapse of **'Antiquities'** time, make antiquity? In the answer, it **defined.** seems to me, lies the justification of this Club. What has Natural History, that is Natural Science, to do with antiquity? Are they antagonistic, irreconcilable? Are we a Scientific Society? Does Science harden and brutalize? Is there a deep-lying truth and meaning in the poet's lament that "science" has robbed us of the Triton and his conch, to give us foraminifera? or in Froude the historian's despondent cry, that since the great firmly established world, the mother-earth, on which men live, has been shown by astronomers to be but an insignificant ball spinning along in the immense profundity of space, man has been robbed of his very foothold, and of all

his antique ideas and beliefs? How do we, so far as we are Naturalists, approach antiquity? With what degree of reverence, or with what degree of desecrating analysis? Though Froude as a historian of human affairs may have resented the ruthless hand of science tearing away the veil from outer space, yet if the veil is torn away from past time, should not the Antiquarian hail the new vista of antiquity opened to him? Again the question—what constitutes antiquity? The word calls up such matters as filled the soul, say, of Scott's "Antiquary"; or, again, the things of early Rome and Greece, or of Egypt, or of Minos, King of Crete. When Charles Kingsley, the friend of Froude, tells the old Grecian stories for English readers, he throws a wonderful air of antiquity about them, and seems to be touching on the most remote verge of time. Such names, in his story, as Troy, the Euxine, the Thracian Chersonese, Cephissus and Pindus and the Copaic Lake, and "the dreary Scythian plains," coupled with others such as Orpheus, the Gorgon, or Medea, carry one back to the remotest antiquity. But the Quarterly Journal of the Geological Society will dub these regions "quite modern," "post-tertiary," "recent." Is the Geologist, therefore, a barbarian? I hope not. Undoubtedly it is a severe tax on the mental powers of most people to grasp long periods of time—that is geologically speaking "long." This was brought home to me, as perhaps to some of my fellow-members, on reading or hearing Mr J. G. Goodchild's deeply interesting account of the rocks of the Siccar Point, which were visited by the Club two years ago. I wish he were here to-day. But he will, I am sure, let me quote him. After giving the total chronological value of the unconformity at the Siccar Point to be in years 178 million, he adds that this is only one of the many great unconformities of which the Geologist is cognisant; and "if, therefore," he says, "I state that the Upper Old Red

Sandstone of the Siccar Point is itself a rock of high antiquity, dating back to more than 400 millions of years from our own times, the reader may be less disposed to be incredulous than if I had stated these figures at the outset." Truly, the man of science here unveils an enormous vista of time. Here is antiquity indeed; and I doubt whether anyone who has not spent much of his lifetime in the open air, often perhaps in solitude, studying the rocks of the earth and their life-history, so that with the sky above him the truth may enter his soul, can hope to obtain a mental grasp of such æons of antiquity as this.

The Geologist by profession or devotion becomes, in the handling of periods and ages, a million-
The Natur- aire, and multi-millionaire. In looking back
alist as through such vast periods of time the
Antiquary. imagination seeks some comfort, just as Mr
 Froude's imagination desired comfort in
 looking through vast space; and the comfort may well be derived from meeting something familiar amidst conditions otherwise strange. Amongst the so-called solid materials of the earth's crust, geology reveals so continued a restlessness, such a succession of changes of position and of form, of destruction and reconstruction, that but one thing seems more permanent than these, and than its own name suggests—the air. And therein is some comfort. The geologic eye looking far backward can count upon the ancient air being much like the present, though land and sea have been ever changing. Indeed the permanence of the air seems to give it a greater stability than the solid land surface. It is difficult to imagine the atmosphere to have been greatly different in volume and components—nitrogen and oxygen—from its present constitution; and the same arguments that explain the existence of certain prevalent winds now, would be equally good in any past geologic time. Thus there would be the trade-winds and anti-trades, even the

doldrums and the "Roaring Forties" in Silurian or Jurassic times, and, given certain land masses, there would be monsoons. The earth's spherical shape, its inclined axis, its rotation, in conjunction with solar heat, cannot have failed to produce the same broad effects of atmospheric circulation then as now. The view of the starry heavens, too, at night, were there an eye to see it, would, one may think, have much resembled its present aspect—the Great Bear, Orion, and the Pleiades, and other constellations, redeeming the blackness of that empty space at which Froude shuddered. It seems, indeed, that the man of science, Astronomer, Geologist, or Biologist, is also an Antiquarian, and that he goes much further back in time than the antiquary of common parlance—his sight is keen for very far distances, but the horizon which he then surveys reveals no human element. It is but a question of degree, and the Berwickshire Naturalist can suit his own tastes, either focussing his gaze affectionately upon the foreground with human figures in it, or directing it, cold and keen, upon the distant landscape far beyond this range. There is not, after all, a conflict or a diversity of studies implied in our statement of aim—Natural History and Antiquities.

As a mere amateur of geology, with mental vision of short focus, unable without pain and difficulty to look very far backward in time, I
Lake now beg with all modesty to offer you a
Ewart. few notes on a matter of quite recent antiquity, if such a phrase may be allowed. And I believe I am right in promising that there will be human life within the field of telescopic view. In the interval between the two Glacial Periods, evidence of man's existence is, I believe, accepted, and gives him the name Paleolithic. I do not, as an antiquary, go back further than this. Let me invite you to take a voyage in a roomy boat upon this Lake, first making its acquaintance,

and letting disquisition follow later. (Plate VI.) We embark at New Bewick, in a Neolithic boat, upon a winding, shallow strip or tongue of blue water, a quarter mile wide at one place, and a short hundred yards at another, till a half-mile's paddling, ending with a Westward turn, brings us opposite to East Lilburn Bay, on a long arm of the Lake, narrowing Southward to a creek, which receives Roddam Burn, and stretching Northwards fiord-like for three miles, with steep shores rising into rounded hills. Steering North down the middle of this fiord—some half-mile wide—startling flocks of duck and geese as we move, and noting the wild cattle on the hills around Chillingham, whence a small creek joins the fiord, we round a headland, and leaving Chatton Moor behind us, enter a wider bay facing Westward, whose long Northward branch receives the entering Hetton Burn close by Hetton Hall. Then through a tortuous bit of water with high shores between Weetwood Hill and Fowberry grounds—though Weetwood Hall and Fowberry Tower are both beneath the waves—we emerge on the Lake itself, the main broad water, and a splendid sight it is, stretching due Westward to Kirknewton for three miles, and North-westward to Etal for four miles. Along its Southern shore range Humbleton, Akeld Hill, and Yeavinger Bell, showing one behind another in succession, with the gleam of a white glacier between the two former; higher Cheviots to the South-west, with snowy summits; Kilham Hill distant, and rather to the right hand; Lanton, Milfield, and Flodden Hills flanking the Western shore. Now with a fair breeze and hoisted sail we speed up the middle of the Lake, with the Eastern coast in view, unable to see Doddington village, which would be just submerged, though Dod Hill stands clear behind, nor Fenton, also below water; but Kimmerston and its quarry are just above, and Ford Castle stands at the very edge, mirrored in the bay. By this time we should have passed across Lake Ewart. And why

the name? Where is Ewart? Ewart lies exactly in the middle of the Lake under 50 feet of water, half-way between Doddington and Kirknewton. Ewart thus occupying the centre, the name seems suitable for the Lake itself, and I ask your permission for the present to designate it by this name.

At the Northern end there is mystery, something between Branxton and Pallinsburn makes a shore line, something also between Pallinsburn and Duddo Hill; and the Lake water finds no escape by either of these gateways, nor yet by Grindon Ridge; but the channel of the out-flowing river goes North-east, and flows through a ravine of its own down to the North Sea. The name Haiden Dean must shield me from the charge of flippancy in conducting you on this imaginary voyage. This wonderful ravine, named Haiden Dean by the Ordnance Survey maps, is, in point of antiquity, an incomparably older monument than any ruined forts or walls of human make. The sight of this deep but dry gorge carved out of the rolling surface of the moor and pasture at once suggests, "Here is the bed of a former river." Members of the Club may know it, and I need not describe it, beyond saying that it is a repetition in general aspect of the lower present-day course of the Till, though now scarcely enough water trickles through it to wet one's feet.

I have put upon a map* the contours of the ground round about the Till's course from Etal to the Tweed. The rivers are shown, *blue*, bog and swamp, *green*, all land over 200 feet above sea level, *red*, and over 300, *brown*. The letters are a key to the names. A moment's consideration of these contours will, I think, explain my point. We have the great Barmoor

* See Plate VII., in which the *colours* are replaced by *shading*.

mass (Ba) of high ground, or I will rather use the convenient word "massif," with Mattilees Hill (M) over 300 feet high, and Duddo Hill (D) [not Duddo Tower] attached to it on the 200 feet terrain by a very narrow neck just South of Grindon Ridge (Gr). Then there is the Branxton Massif (Br) and the Pallinsburn Massif (P), all over 200 feet elevation. I would call attention to the gateway formed by the near approach of the Duddo Hill and the Pallinsburn Massifs to each other. This is a beautiful bit of river scenery. The Till runs over a rocky bed, with less of sluggish demeanour than is its custom, and the steep banks are clothed with trees, that on the East side being called Black Bank, and that on the West or Pallinsburn side King William's Cover. The opposite cliffs are about 70 feet high, and scarcely 300 yards apart at their summits. A moderate amount of spade labour would seem sufficient to fill up this Black Bank gorge, and block this gateway of the river. Supposing such a barrier to be made, so as to connect the Duddo Hill and Pallinsburn Massifs up to a level of 200 or 220 feet, and a similar barrier made across the Pallinsburn bog, between the Pallinsburn and Branxton Massifs, and again a slightly increased elevation given to the narrow neck joining the Duddo Hill promontory to the Barmoor Massif, then what would happen? Till, disappointed of an outway by the accustomed Black Bank gorge, and failing equally to reach the Tweed (as he may at some former time have done) by the Pallinsburn and Learmouth (L) Bogs, would swell with anger and fill his valley from side to side till his fulness reached the contour line of 200 feet. Then we should see Lake Ewart exactly as here represented. The map (Plate VI.) is a copy of the 6 inch Ordnance Survey, obtained by following the 200 feet contour line. The remarkable shape, especially in the South-east portion, has its parallel in the lakes of Sweden and Finland, nowhere in Britain except perhaps in Lewes. Such

shape is indicative of hollows surrounded by glacial drift. Were the barriers at the Black Bank and Pallinsburn gorges to be 220 feet high, the outline of Lake Ewart would not be very appreciably altered, and the Till would then drain away the overflow by passing between Mattilees Hill and Gatherick, where there is a line of minimum elevation not rising higher than 217 feet above sea-level, just where the roads from Berrington Lough and Gatherick meet, and continue to Duddo. Once past this, there would be a downhill slope to the head of Haiden Dean (H).

Hence the reality of a Lake Ewart depends upon the reality of the barriers at the gorges just mentioned, Pallinsburn and Black Bank, and at Grindon Ridge. Here the trained Geologist should intervene. But surmise may be permitted. If, as at the close of the Glacial Epoch was possible, and even probable, the Tweed Valley was occupied by a wide glacier, spreading over the river banks on both sides, this would effectually block the direct avenues to the Tweed from Pallinsburn or Black Bank, three miles distant, either with its moraine, or with its own solid ice. So long as this glacial condition lasted, the Till would flow down Haiden Dean, carving its channel deeper, and reaching the North Sea independently. There appears to have been also at one time a minor lake at a later date than Lake Ewart, which would practically be the Kirknewton branch of the Ewart Lake, after the latter had become dry or much shallower. The river Glen appears to have diverged from its present course, from which it parted just below the site of Coupland Castle, and crossing what is now the Milfield Road, some way North of Ewart West Lodge, turned down past Galewood on the North side of it, reaching the Till (or the Lake) some two miles lower down than its present confluence. This is noted in a paper, entitled "Banks of the Tweed and some of its tributaries," by

Mr D. Milne Home, Transactions of R.S.E., 1876, but not explained by him.

Again a surmise may be permitted, and glacial influence here, too, brought in. As the Tweed **Grounds of Conjecture.** glacier may have dammed the Till, so may an Akeld Dean glacier, coming right across the valley to the high ground of Akeld Steads opposite, have dammed the Glen till a lake was formed, surface 170 to 180 feet above sea-level, and the Glen would then find its overflow at the point just mentioned near Coupland. There are some independent evidences of Lake Ewart which may be given. The existence of beds of clay, when not of glacial origin, that is, not intermixed with gravel and boulders, but pure, deep, and continuous, points to deposition in still lake water of the finer sediment brought down by rivers. The Ewart Tile Sheds and the Flodden Tile Sheds both supply this evidence. Mr David Milne Home, before quoted, says (p. 529)—“On Ewart estate, the proprietor, Sir Horace St. Paul, informs me that the following borings were made by him:—On the low haugh land opposite to Humbleton buildings, where the clay is at the surface, he bored down 70 feet, and did not get through it. He went through a few thin seams of gravel. At another place, in boring for water, he went first through 25 feet of dry gravel and sand; at that point, having reached the level of the river Glen not far off, he went through more gravel and sand, heavily charged with water, for about 20 feet; a thick bed of clay was then reached. This clay bed was bored to a depth of 100 feet, when the rods broke. There was nothing in the clay but a few thin seams of gravel.” And, talking of excavations, I have brought hither with me the result of some which were made recently in digging a new channel for the river Glen near Ewart Newtown. My factor came upon them buried, at a depth of nine feet from the surface, in the river

alluvium—two heads, with a heavy but unshaped stone above them. They may be horses' heads. But not knowing the rate at which the river Glen deposits alluvium, I will not venture to assess their antiquity.

I now have to fulfil a duty as outgoing President.

I have much pleasure in appointing as my
Election of successor Mr William B. Boyd of Faldon-
President. side, of all our members one of the best
known, most respected, and of the oldest
standing. As he has proved one of the most regular
attenders at our meetings, I am convinced that his
appointment will cause much satisfaction to the Club
generally.

Reports of the Meetings of the Berwickshire Naturalists' Club for 1904.

WOOLER FOR YEAVINGER BELL.

THE OPENING MEETING of the year was held at Wooler, on Thursday, 26th May, in fine weather, though a sea haze precluded any very extensive view. There were present:— Mr G. G. Butler, M.A., Ewart Park, President; Rev. J. J. M. L. Aiken, B.D., Ayton, Editing Secretary; Mr George Bolam, Berwick, Treasurer; Mr John Barr, Tweedmouth; Mr Wm. B. Boyd, Faldonside; Mr C. L. Stirling Cookson, Renton House; Mr J. Hewat Craw, Foulden; Mr James and Mr J. F. Craw, Whitsome Hill; Mr F. C. Crawford, Edinburgh; Mr T. Dand, Hauxley; Mr R. H. Dodds, Berwick; Mr A. M. Dunlop, Crawford; Mr William Dunn, Redden; Mr A. Falconer, Duns; Dr R. Shirra Gibb, Boon; Miss Gibson, Netherbyres; Mr J. G. Goodchild, F.G.S., Edinburgh; Mr William Grey, Berwick; Provost Hilson, Jedburgh; Mr J. C. Hodgson, Alnwick; Mr R. W. Hopkinson, Newcastle; Mr Francis Lynn, Galashiels; Mr Wm. Maddan, Berwick; Major James F. Macpherson, Edinburgh; Mr J. L. Newbigin, Alnwick; Rev. Morris Piddock and Miss Piddock, Kirknewton; Mr Andrew Riddle, Yeavinger; Rev. Evan Rutter, M.A., Spittal; Miss Simpson, Coldingham; Mr James A. Somervail, Broomdykes; Mr Edward Thew, Birling; Rev. Canon J. S. Wilsden, Wooler; and others.

The members assembled at Kirknewton Station, where they were joined by the President and Rev. **Kirk-** Morris Piddock, incumbent of the parish, who **newton.** had kindly offered his assistance as guide to the party. Moving off in the direction of the village—which is situated among a few trees at the base of conical hills, near the junction of the waters of the Colledge and the Glen, to the South of which rise the Newton Tors, and to their rear the huge bulk of Cheviot itself—the members set foot on a pastoral district, now quiet and peaceful, but once the scene of inroads and devastation by Scottish raiders, as is vouched for by Sir Robert Bowes' report on the state of the Borders in 1550. Life then would be insecure and precarious, but now it is tranquil and unmolested, the even tenor of its course being evidenced by tombstones in the churchyard recording the names of parishioners who had reached the hoary age of ninety-seven, one hundred and two, and even one hundred and nine years.

Hard by stands the parish church, a modern structure, built on the site of a Norman edifice—a buttress and foundations of which were laid bare during recent excavations—and dedicated to St. Gregory. **Church** and foundations of which were laid bare during **of St.** recent excavations—and dedicated to St. Gregory. **Gregory.** It is interesting to recall its historial antecedents. Edwin, King of Northumbria, married in 625 Ethelburga of Kent, the daughter of Ethelbert, its first Christian king. In her train there followed to Yeavinger, where the court was held, her chaplain, Paulinus, lately consecrated Bishop of York. At the date of his marriage Edwin was a heathen, but in the course of a few years he embraced Christianity, and was baptized by Paulinus, along with a number of his nobles. Six years later he was overcome by Penda, King of Mercia, and died at Hatfield, near Doncaster, in consequence of which disaster his Queen and her chaplain fled, and the kingdom was divided between two apostate princes, Christianity the while being stamped out throughout Northumbria. During his reign, however, shelter had been afforded in Scotland to St. Oswald, a fugitive of royal lineage, who in Iona had been taught the Christian faith; and on the defeat of Caedwalla, the Welsh monarch who aided Penda in the overthrow of Edwin, he was duly

acclaimed King of Northumbria, and with the aid of St. Aidan, sent to him from the Holy Isle where he had found sanctuary, re-established Christianity throughout this whole Northern kingdom. In 642 his beneficent reign was also brought to a tragic end by his death on the field of battle, but not before the Christian faith had taken deep root among the people whom he and his episcopal coadjutor had sought to evangelize. Such memories are awakened as one enters the church of Kirknewton, and realises that in the river Glen, which runs so near it, Paulinus baptized his earliest converts in the North, and that the little brook which still traverses the churchyard, and has of late years by its frequent overflow rendered the adjoining school and schoolhouse uninhabitable, at one time ran across and within the sacred building, supplying its ancient baptistery with water. The chancel, however, is the most remarkable feature of the building, being regarded by some authorities as even of Saxon origin. The spring of the arch rises at only two feet nine inches above the ground, and imparts a somewhat primitive and unusual character to the structure, reminding one of a similar design illustrated in the ruinous walls of St. Helen's chapel, Oldcambus, Cockburnspath, built in the end of 12th century.

Peculiar interest attaches to this portion of the building, inasmuch as subsequent to the Club's visit a **Memorial Window.** memorial window has been erected in it by the wife of a very old and esteemed member, Mr Charles Rea, long resident at Doddington, and particularly devoted to botanical and archæological research. After leaving this Border residence, and spending some years in travel, he settled down again in 1890 at Cleithaugh, Jedburgh, where he continued his connection with the Club until his last illness and death in October 1902. The window, which occupies the East end of the chancel, portrays an apocalyptic vision of our Blessed Lord, seated in glory amid the seven Spirits which stand before the throne, and adoring angels; and is fashioned after an original sketch by the late Mr John H. Powell, whose exceptionally refined and beautiful work in ecclesiastical art is very generally admired. It was executed by Messrs John Hardman & Co., Birmingham; and the 13th century triplet of lancets which intersects it was

designed by Mr Pugin Powell, architect, Liverpool. It bears an inscription, commemorative of its erection, by Alice Mary Rea, his wife, daughter of George Bramwell, Esq., and a grand-daughter of Rev. Francis Hungerford Dawbeney. The window was solemnly dedicated on June 18th 1904 by the Lord Bishop of Newcastle. At right angles to it, on the South side, is a similar but narrower chamber, believed to be an ancient chantry, but now known as the Burrell vault, in which may be seen the old piscina and a grave-cover of the 12th or 13th century. In the wall behind the reading-desk is fixed a curious piece of sculpture representing the Adoration of the Virgin and Child by the Magi, and said to be a facsimile of one found in the Catacombs.

Under the direction of the President and Vicar the party thereafter entered on the ascent of the Bell, following a path which lies immediately to the South of the village; but ere experiencing the serious work of climbing they divided into two sections, the one to reach the summit and examine the historic remains of forts and hut-circles, the other to search the remains of the forest of natural oak on its Northern slopes, and renew the quest for *Pyrola secunda*, reported by the Club on a former visit. By far the larger portion, including all the ladies, adopted the former course, and in spite of the difficulties encountered, notably loose stones scattered along their track, and a slippery foothold occasioned by a continuance of dry and sunny weather, succeeded in gaining the top of the hill, whence a fine panorama unfolded itself, including the greater portion of the Cheviot range with many intermediate peaks to the South and South-west, and what is geologically named the Lake of Ewart, comprising the rich pasture-land of Ewart Park and Coupland Castle to the North, as well as a wide stretch of undulating country culminating in the wooded heights of Chillingham to the East. While resting after their arduous climb, for the hill, though only 1182 feet above sea-level, is remarkably abrupt, the members were favoured with an interesting account of its structure, and of the geological features of the surrounding country, by the late Mr J. G. Goodchild, F.G.S., Edinburgh. The hill, which at a distance presents a distinctly conical outline, terminates in a plateau, encircled

by a wall from ten to twelve feet in width, composed of native, unhewn blocks of stone built together without mortar. The enclosed area covers from twelve to fifteen acres, to which access is obtained by four gateways, the chief of which is situated on the South, and is defended by a guard-house of an oval shape. At the East and West ends of this prehistoric fort are extended additional walls in the form of a crescent, as if to supply a first line of defence. The soil is comparatively level throughout, but towards the Eastern extremity rises somewhat abruptly, affording greater security to its defenders, who, to strengthen this natural buttress, surrounded it with a ditch cut out of the solid rock to the depth of five feet, and threw up a low rampart about one foot in height. Within this fortlet, at its highest point, is situated a small oval enclosure, thirteen feet in diameter from North to South, and ten feet from East to West. Throughout the main fort are scattered the remains of upwards of a dozen hut-circles, whose average diameter measures from twenty to thirty feet. Lower down on the Eastern side of the Bell are traceable the foundations of fortified dwellings, also containing hut-circles, which may be regarded as outposts in the scheme of fortification. Very general acceptance is now given to the belief that the larger enclosures were employed for the security of the natives and their cattle in the time of invasion, while the smaller served the purpose of look-outs or peels in the time of peace, when the hillmen would be engaged in pasturing their stock on the lower levels, where their accustomed habitations were situated. Of these an immense number can be traced on the slopes of the intervening ground (most easily approached from Akeld station) on both sides of the route adopted by the Club in reaching their most Eastern limit at Humbleton.

To accomplish their purpose the members had to descend rapidly towards a swampy piece of ground behind Akeld Hill, and in so doing were confronted on the East with a curious gorge or cañon at the head of Monday Cleugh, whose origin gave rise to much speculation. Two theories were propounded, the one attributing it to the action of ice in damming a channel of drainage water, and causing it to

force a new course for itself in an unexpected direction; the other, to the weathering away of an igneous dyke of more perishable material than the andesite which surrounded it. Considerable mystery enshrouds its formation; but the ancient dwellers in that region, more concerned about personal security than geological problems, instinctively realised its strategical value, and on the precipitous elevation at its Western extremity, now known as Harehope, raised a stronghold which, hidden amid the undulations of the encircling hills, afforded them a safe retreat, and a vantage-ground from which to check any inroad from the East. Approaching it from the North-west, the party had no difficulty in tracing the broad and tortuous avenue, bordered on each side by earthen ramparts, which leads from the low ground around Akeld, and enters the walls of the camp obliquely, under the protection of an inner guard-house. The fort itself forms an irregular square with rounded angles, and is defended on the West by three concentric circles of accumulated earth and stones, still nearly entire. The walls rise to a height of six feet or thereby, and can be easily distinguished, a complete measurement of the interior having been made since the Club's excursion by Mr. Francis Lynn, F.S.A. (Scot.), Galashiels, who has contributed a paper on the subject, and illustrative charts, to this year's volume of the Proceedings. In making this minute survey of the fort, one was impressed by the details of the fortification, which clearly demonstrate the ingenuity of its original engineers. A few hut-circles occur within the lines of defence; but the fort seems primarily to have been intended as a place of retreat and safety in times of invasion for the hillmen and their cattle and sheep. On the East side there has been constructed a narrow, depressed cart-track, which leads up the ravine to an entrance on the South, which is strongly fortified, and in winter it may have served the purposes of a moat, as during heavy rains it must certainly have been filled with water. Very little alteration has been made upon the camp outline by later occupants, though here and there cross-walling between the circles may be attributed to herdsmen of a more modern time.

Ascending by a steep and sinuous path to the left of Monday Cleugh, the party reached the rugged summit of Humbleton Hill, on which is planted another strong fortification of the nature already referred to. From the numerous hut-circles dotted along its lower slopes, it is evident that the population of these hills in early days must have been considerable, while the accumulation of sheep and cattle folds bespeaks their comparative wealth, and the fertility of the surrounding country. Lower down the hill are successive tiers of artificial terraces or baulks, on which its ancient possessors cultivated their crops. From the path descending in the direction of Humbleton, a hamlet of ruinous houses about half-a-mile to the South of the main road, a fine prospect is obtained, with Wooler in the foreground, Chillingham to the East, and Doddington and Ford Castle to the North. At the base of the hill, and skirting the North Eastern Railway, lies the Redriggs' field, in which was fought the bloody battle of Homildon Hill, in 1402, between the English under the Earl of Northumberland, led by his son Hotspur and the Earl of March, and a body of Scottish raiders under the Earl of Douglas, who were returning from the Tyne, whither they had penetrated by way of retaliation for the reverse sustained at Nesbit Moor. Finding their progress towards the Tweed obstructed by their Northumbrian foes, the Scots occupied a strong position on the side of the hill, but were so discomfited by the accurate aim of the English archers that they broke and fled in confusion. Of the host that followed the banner of Douglas, eight hundred are said to have fallen in the engagement, and five hundred more to have perished while crossing the Tweed.

The botanizing section of the party meanwhile traversed the lower slopes of Yeavering Bell, occupying themselves with the flora of the district. Attention was specially devoted to the wood of natural oak which stretches up from the enclosed fields of the farm of Yeavering to a considerable height on the North-east face of the hill, in the expectation of identifying the station of the rare Winter-green (*Pyrola secunda*), reported on two different occasions,

since the formation of the Club, to have been found upon the Bell. Unfortunately the search-party before starting were not in possession of the facts as recorded by Dr Johnston in his "Botany of the Eastern Borders," and devoted their labours to a section of the hill below the accredited station. These facts are as follows:—"During an excursion of the Club in June 1834, 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 and careless? The latter alternative may well be the correct one, for the days of our visits rained heavily." In describing the hill and its surface, he speaks of it as "well covered with green-swarded turf and heather," and adds particularly, "it was just where this heather touches on the shingle that we found the *Pyrola*." In the belief that the plant would naturally flourish in the shade of the forest trees, a considerable time was occupied in examining all the likely nooks and corners there, without any attempt being made to survey the hillside lying above the zone of heather, and hence it is not surprising that the efforts of the party proved fruitless. A private excursion, organized for the purpose later on in the season, also met with a similar disappointment. Skirting the slopes of the neighbouring hill of Akeld, where the footing was rendered very trying and difficult by the abundance of loose boulders encircling its base, the members reached the gorge through which the burn of the same name sparkles towards the Glen, and descended through an old fir-plantation upon the site of an ancient peel-tower, with a vaulted under-chamber, mentioned in the Border Survey of 1542, which is still in a good state of preservation. Striking the main road at this point they made their way towards Wooler, some three miles distant. During their ramble they noted the following plants, which may be mentioned:—*Oxalis acetosella rubra formae*; *Lysimachia nemorum*; *Lastræa dilatata*; *Asplenium Adiantum-nigrum*; *Polypodium Dryopteris*; *Carex præcox*; *Arenaria trinervia*; *Montia fontana*; *Viola lutea*; *Lathyrus macrorrhizus*.

On bare patches lying to the North of Yeavinger Bell, *Teesdalia nudicaulis* was found in considerable abundance, and for the time was regarded as somewhat of a rarity at such an elevation; but on referring to "The Botany of the Eastern Borders," it was ascertained that the same plant had long ago been found well established "on debris near the summit of the Bell."

The members rejoined at the Cottage Hotel, Wooler, where upwards of twenty-six sat down to dinner, under the presidency of Mr G. G. Butler, Ewart Park.

Club
Dinner. The following were duly nominated for membership:—Rev. J. F. Scholfield, 18 Buccleuch Place, Edinburgh; Rev. Edmond Williams, Bamburgh; Mr Frederick George Skelly, Alnwick; Mr Robert Oakeley Vavasour Thorp, Chatton Hall, Chathill; and Mr William Mark Pybus, 85 Osborne Road, Newcastle.

It was reported by Mr George Bolam, Treasurer, in behalf of the other Officials of the Club, that they

Edwardian had, in the name of the members, subscribed
Walls, a petition to the Municipal authorities of
Berwick. Berwick against the projected demolition of the Edwardian Walls to facilitate a scheme of tenement-building. On the motion of Dr Shirra Gibb, Boon, seconded by Provost Hilson, Jedburgh, the action of the Officials was unanimously approved.

KEILDER, NORTHUMBERLAND.

THE SECOND MEETING was held on Wednesday, 29th June, at Keilder, and was attended by the following, among others:—Mr G. G. Butler, President; Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, Editing Secretary; Mr George Bolam, Treasurer; Mr R. Blair, F.S.A., South Shields; Mr W. B. Boyd, Faldonside; Rev. J. Burleigh, Ednam; Mr T. Dand, Haukley; Mr Thomas Darling, Berwick; Mr R. H. Dodds, Berwick; Mr A. M. Dunlop, Crawford; Mr William Dunn and Mrs Dunn, Redden; Dr R. Shirra Gibb, Boon; Mr J. G. Goodchild, F.G.S., Edinburgh; Mr J. C. Hodgson, Alnwick; Colonel Hope, Mrs Hope, and Miss Hope, Cowdenknowes; Mr George P. Hughes, Middleton Hall; Dr J. Carlyle Johnstone, Melrose; Major James F. Macpherson, Edinburgh; Mr William Maddan, Berwick; Mr Henry Rutherford, Fairnington; Mr A. Murison Small, Melrose; Mr James A. Somervail, Broomdykes; Mr William C. Steadman, Jedburgh; Mr J. Turnbull, Galashiels; Mr H. G. Wilkin and Mrs Wilkin, Alnwick; and Mr William Young, Berwick.

This was the Club's first visit to Kielder; and "lovers of wild upland Nature, ornithologists, geologists, and botanists," encouraged by the attractive prospect forecast by the Organizing Secretary in his circular calling the meeting, gathered in goodly numbers to taste the delights of a ramble on the Western ridges of the Cheviot range. In order to avail themselves of the somewhat scanty train service, members required

Route to Kielder.

to spend the previous night at Hawick, or Bellingham, or some other equally convenient point of connection, whence they might reach Kielder at ten o'clock in the morning. The day proved very pleasant, though a dulness overspread the landscape on account of a heat-haze which prevailed throughout the day. At Riccarton Junction, where the North British Railway branches on its way to Newcastle, the plan of the day's excursion was made known, a choice of routes being afforded the excursionists, either to leave the train at Deadwater Station and occupy the early part of the day in ascending Peel Fell, and examining the Kielder Stone, situated at its Northern base, or to continue the railway journey to Kielder Station and spend the available time in a ramble among the woods of the Castle.

A small party of venturesome spirits, including Mr George P. Hughes, Mr Thomas Darling, Mr J. G. Goodchild, Mr James A. Somervail, Mr R. H. Dodds, Mr Wm. C. Steadman, Mr George Bolam, and the Editing Secretary, adopted the former alternative, and under the guidance of Mr Walter Hedley, Bewshaugh, shepherd to the Duke of Northumberland, whose services had been placed at the Club's disposal for the day, they essayed to climb the steep sides of one of the most Western peaks of Cheviot, included in the fine sheep-farm of Deadwater. The hill, locally called Peel Fell, presents no great difficulty to the average mountaineer, especially if the line adopted by the guide is carefully followed; but a frontal attack, indulged in by three of the party in the hope of making botanical and ornithological discoveries, demanded a considerable amount of endurance, the grassy slopes, at a distance apparently so gradual, being found on closer inspection to conceal many a bog and boulder, whose negotiation added greatly to the labour of the ascent. The hill to near its summit is richly clothed with pasture, which there gives place to abounding heather. It reaches a height of 1,975 feet, and commands a fine prospect; but, owing to the moist heat prevailing, no idea of it could be obtained that day. The summit is honey-combed with moss-hags, on the sides of which were noted the Club-moss (*Lycopodium Selago*), and the Cloudberry (*Rubus chamaemorus*) locally known as "Noop," "starring the elastic

sod" of a desolate, wind-swept waste with its sweet, white blossom and ripening fruit.

From the marshy crown of the Fell, the home of reynard, the party were led down its Northern slopes in the direction of the Kielder Stone, situated at the head of the Scaup burn, a tributary of the Kielder water, and famous in Border minstrelsy as the scene of the "Cowt of Kielder's" crossing of the Border on his ill-fated raid near the Castle of Lord Soulis, his mortal foe, whose followers overtook and despatched him as he stumbled in the water there. Many are the legends surrounding this huge mountain-boulder, one of which predicts destruction to anyone who should dare to go thrice round it "withershins," that is, contrary to the course of the sun, as "the little brown man of the moors" would render his journey inauspicious. Strictly speaking, this mass of rock "cut out of the mountain without hands" does not stand on the border-line between Scotland and England, as is generally reported, but only occupies a site sufficiently near it to have served in olden times, as vouched for by its present Ducal possessor, the purposes of a "post office" between the Northern and Southern kingdoms. The tradition holds that letters were deposited in a cleft of the rock, and "collected," as we now say, by the next pedestrian from the opposite country! The origin of the boulder has given rise to wild speculation, the abundance of romance that entwines it doubtless accruing from its accredited supernatural location; but in spite of the existing prejudice against a natural and scientific derivation, it may be regarded as an example of what is geologically called a "slip-mass," or a portion of rock from under which the soft soil has gradually been worn, causing it to slip down into its present position. Akin in structure to the sandstone with which the hill is seamed, this solitary fragment weights about 1,600 tons. On its surface was noticed the Lichen (*Usnea balata*).

On their return journey the party visited another remarkable rock, locally named "Holey Stone." It is situated to the South, on Deadwater Fell, and distinguished by a hole worn in its centre, of sufficient width to allow of a man passing through it. Probably the hollowing process is attributable

to the action of wind and grit, which often originate fantastic shapes in rocks so solitary and exposed. A gradual, though protracted descent of the Fell, along the steep sides of the stream which rises near its summit and crosses under the road near the Railway Station, brought the party back to the point whence they had started. The Deadwater, as the burn is named when it reaches the level ground, where it flows sluggishly towards its junction with the Kielder burn, is generally regarded as the source of the North Tyne, though the people of the district claim this distinction for a small stream further North, which forms a march between Saugh-tree and Kielder.

The main body of the party continued their journey to Kielder Station, which is situated within a few minutes' walk of the modern castellated building which His Grace the Duke of Northumberland now makes use of as a shooting-lodge. The site of Kielder Castle was chosen at the suggestion of Mr Charles Williams, "who being on a shooting party with Earl Percy, in August 1770, came unexpectedly on the spot whilst in pursuit of a black-cock, and was greatly struck with the beauty of the situation." The Castle stands on a green knoll, called "Humphrey's Knowe," and is approached by a fine avenue of firs, which afforded generous cover to many mated songsters. Ere reaching the grounds of the Castle, the Deadwater, whose volume along its level course is perceptibly augmented through the inflow of rills rising far up on the surrounding moorlands, is bridged over at a point overlooking its junction with the Kielder water, whence it flows over a pebbly channel under the title of North Tyne, in due time commingling its waters two miles West of Hexham with those of its Southern neighbour, and in course expanding into the turgid river familiar to all visitors to Newcastle, which contributes to our Navy and Merchant Service such a valuable tonnage from year to year. The party was received at the entrance to the Castle by Mr R. Kyle, Constable of Alnwick Castle, who represented the Duke and Duchess of Northumberland, and afforded the members every facility for viewing the building and exploring the neighbouring woods and water-courses. During a pleasant

saunter under the shade of the trees fringing the streams, the botanists were fortunate in identifying the few plants named by the late Dr Hardy as having been seen by him during a visit to the district in June 1889,* namely:—*Carex riparia*; *Cnicus heterophyllus*; *Geranium sylvaticum*; and *Equisetum sylvaticum*: and contributed the following to the known flora of Kielder:—*Carex hirta*; *C. flava*; *C. disticha*; *C. pallescens*; *C. sylvatica*; *C. stellulata*; *C. panicea*; *Mentha sylvestris* (*nemorosa*); *Trollius Europæus*; *Geum rivale* (*proliferum*); *Valeriana dioica*; *Lysimachia nemorum*; *Listera ovata*; *Viola hirta*; *Callitriche pedunculata*; *Sanguisorba officinalis*; *Hieracium Pilosella*; *Asplenium Ruta-muraria*; *Sanicula Europæa*; *Stellaria Holostea*; *S. uliginosa*.

At two o'clock the members repaired to the Castle, where a sumptuous repast had been provided through the generous forethought of their gracious host and hostess, of which thirty-two guests gratefully partook, as an early start and the keen air of the mountains had tended to quicken their appetites. The President occupied the chair, and, after a hearty meal had been enjoyed, acknowledged in suitable terms the indebtedness of the Club to their member, the Duke of Northumberland, for the unstinted hospitality that had been extended to them on the occasion of their first visit to his beautiful hill-residence. The toast of their Graces' health was most cordially pledged.

Ere separating for the afternoon the members were afforded the opportunity of examining a plant of *Sagina Boydii*, discovered on the Grampians by Mr Wm. B. Boyd, Faldonside, who explained that owing to his inability to identify the exact spot where he gathered it, this addition to science had not as yet been included in the British Flora. The plant, tufty in its habit and bright green in its foliage, was shown in robust and perfect health. The same exhibitor had with him a curious double green Snowdrop (*Galanthus viridis*), a natural seedling, with all its petals converted into sepals of a uniform green colour, which had been raised by Miss Russell, Ashiestiel. A nomination in favour of Mr H. H. E. Craster, Fellow of All Souls, Oxford, was intimated.

* Ber. Nat. Proceedings, Vol. XII., p. 477.

Before quitting this hospitable mansion, another proof of their host's and hostess' kind thought was afforded the members in the serving of tea in the drawing-room, which, needless to say, proved an unexpected pleasure. Mr R. Kyle, assisted by a staff of servants from Alwick Castle, did all in his power to provide for the entertainment and comfort of so large a party. Trains for Riccarton and the West, and for Newcastle, were timed to leave Kielder Station at 6-9 and 7-13 respectively.

ST. MARY'S LOCH.

THE THIRD MEETING for the year was held on Friday, 29th July, the original date having to be altered on account of advertised excursions from Selkirk and Moffat taking place that day. This may account in some measure for the somewhat smaller muster of members than was anticipated. Among those present were the following:—Mr G. G. Butler, President; Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, Editing Secretary; Dr T. Scott Anderson, Jedburgh; Mr W. Arras and Mrs Arras, Galashiels; Mr T. Craig Brown, Selkirk; Rev. R. Borland, Yarrow; Mr Wm. B. Boyd and Miss Boyd, Faldonside; Mr R. Carmichael and Mrs Carmichael, Coldstream; Mr John Cochrane and Mr Archibald Cochrane, Galashiels; Mr A. M. Dunlop, Crawford; Mr T. Dunn, Selkirk; Mr A. A. Falconer, Duns; Mr George Fortune, Duns; Mr Charles E. Galbraith and Mrs Galbraith, Terregles; Mr P. E. D. Gardiner, Galashiels; Mr Arthur Giles, Edinburgh; Rev. David Hunter, D.D., Galashiels; Mr William Little, Galashiels; Mr William Maddan, Berwick; Mr William J. Marshall, Berwick; Mr William H. Ogilvie, Jedburgh; Mr A. Riddle, Yeavering; Mr George Riddle; Mr James Romanes, Mrs and Miss Romanes, Selkirk; Rev. Evan Rutter, Spittal; Mr J. Elliott Rutherford, Hawick; Rev. John Sharpe, Heatherlie; and Mr John Turnbull, Galashiels.

The party were met at Selkirk Railway Station on the arrival of the 8-30 a.m. train from Edinburgh by the President and others, who had spent the night in the neighbourhood; and being provided with seats in commodious coaches, from which a good view of the surrounding country might be obtained, and headed by their former President, Mr T. Craig Brown, cicerone for the day, and others in private carriages, they left Selkirk at 11 o'clock, with the prospect of reaching Rodono in time for two o'clock luncheon. The objects of interest in the town were left unvisited on the present occasion, attention being drawn only to the enclosure of a part of the Common which had recently been dedicated to the memory of the late Queen, and styled Victoria Park. The route lay to the West of the town and across the Ettrick, whose course from Capel Fell to its junction with Yarrow teems with memories of many a Border fray. A modern bridge, built to replace an old one half a mile further down, which was swept away in 1777, spans the river. On the right of the roadway is situated Thirladean, sheltered by a belt of trees, and enriched by a small lake in front, where the late Mr Russell, editor of *The Scotsman*, spent several summers. Near it stands the model farm-steading of Philiphaugh, occupying a part of the extensive plain lying two miles in length, and from a quarter to half a mile in breadth, alongside of the river as it makes its way to join the Tweed, and forming what has been regarded as the battlefield of Philiphaugh.

This historic site has passed into the possession of one of our members, Mr W. Strang Steel, who purchased it from the representatives of Sir John Philiphaugh. Forbes Pringle Murray, Bart., and has greatly embellished the mansion-house and surrounding policies. To the East of the house, on an enclosure overgrown with ivy and honeysuckle, stands a stone pyramid, erected to commemorate the Covenanters who fell in the bloody engagement which was fought between them and the Royalists on 13th September 1645, and which is memorable as the last historic encounter in the Forest of Ettrick. Whether the battle was deliberately planned, or partook of the nature

of a surprise, cannot be with certainty determined, but its distinctive features are beyond dispute. A series of successful encounters in the Northern parts of the kingdom had emboldened Montrose to push Southwards, in the hope of receiving reinforcements from beyond the Borders to fill the ranks now thinned by the withdrawal of his Highland followers, who had returned to their homesteads to enjoy the fruits of victory. To intercept him, General David Leslie, on the representation of the Scottish Parliament, was commissioned to cross the Tweed, and, learning that Montrose lay entrenched near Selkirk, he quartered his army near Melrose, at a convenient striking distance from the enemy. The main portion of the Royalists occupied positions in the neighbourhood of Philiphaugh, the artillery being stationed near the old Mansion-house, and the main body posted on the hillside that runs Eastward for a considerable distance, their leader with the cavalry being quartered in the town of Selkirk. On the following day the Covenanters' army was again on the march, and their leader, taking advantage of a prevailing mist, despatched two thousand of his troops across the Ettrick and up the valley between Philiphaugh and Linglie Hills, in order to attack the left flank of the Royalists. Allowing sufficient time for them to gain their position and carry out a simultaneous attack, Leslie ordered a general advance, and gained unawares—such was the hostility of the inhabitants of this region—a position of advantage in front of the main body of the enemy. Taken by surprise, the Royalists were thrown into confusion, and even on the arrival of Montrose, with what horsemen he could hastily gather in the town, were so sorely pressed that in spite of his efforts to rally them they broke and fled, a large number of them being taken prisoners and afterwards ruthlessly slaughtered. Realising that the day was lost, Montrose fought his way through the exultant forces of the enemy, and crossing the hills by Minchmoor with a few followers sought refuge under the hospitable roof of Traquair. Leslie's victory was complete, but stained through the wanton butchery of many captives in the courtyard of Newark Castle, a field in whose neighbourhood still bears the name of Slain Men's Lea, and is believed to be the place of their sepulture.

On the left, proceeding Westwards, stands the Manor-house of Bowhill, the Forest residence of the Duke of Buccleuch. Presenting in the beginning of last century the appearance of only a small shooting lodge, it has been elaborated into a stately mansion, built in the Italian style, and surrounded by ample woods, which recall its fame for supplying bows for the archers of Ettrick. The earliest mention of the place in history in 1455 describes it as a royal possession, lately wrested from the house of Douglas. In succeeding centuries it became the possession of Scotts and Murrays, till at the close of the 17th century it passed into the hands of Colonel William Murray, who was succeeded by his brother John, afterwards Lord Bowhill. After being acquired by one of the name of James Veitch, it ultimately became the property of the ancestors of the noble family of Buccleuch, of whom Mr T. Craig Brown, in his *History of Selkirkshire*, states: "The Scotts of Buccleuch properly begin with Robert Scott, who is first distinctly mentioned as possessor of Rankle Burn, and who in 1415 exchanged with the monks of Melrose the lands of Glenkerry for the lands of Bellenden, and who also, in 1420, acquired half of the lands of Branxholm." On the South of this estate "Black Andro's Wood" of stately pines adorns the hillside, obtaining its distinctive title, it is alleged, from a coloured servant of the ducal house, who had assisted at their plantation.

About a mile further West, on the right, are to be seen the ruins of Foulshiels Cottage, the birthplace of Mungo Park, "the first of the knight errantry of Africa." Born on the 10th September 1771, and giving proof in time of exceptional ability, he was apprenticed at the age of fifteen to a Selkirk surgeon, and having graduated in Edinburgh at the age of twenty-one, he began his medical career by accepting the post of assistant-surgeon on board an East Indiaman bound for Sumatra. Returning to his native country he accepted, in 1795, under the auspices of the African Association of London, an appointment to investigate the course of the river Niger, and at the age of twenty-four sailed for Senegal, W. Africa, whence, after preparing himself by acquiring the Mandingo language, he set out to explore what proved to be a most inhospitable

region of the Dark Continent. During an absence of nineteen months, in which he suffered many hardships, he obtained such an abundance of valuable and stirring information that, on his return to Foulshiels in the summer of 1799, he was able to publish an account of his adventures, entitled "Travels in the Interior of Africa," which gained for him a widespread and well-merited notoriety. Having entered into matrimonial relations, he settled for a time in Peebles as a medical practitioner, but finding the life among his native hills too tame and uneventful, he gladly accepted a commission from the Government to renew his explorations on the Niger. Arriving at Pisania, on the Gambia, he recruited a company of forty-five, most of whom were soldiers, and pushed forward once more into the heart of the country, only to be stripped through fever and mischance of most of his companions, and suffer shipwreck on the river, in which he and his faithful followers eventually were drowned. In the front wall of the old house a tablet was erected by the late Dr Henry Anderson of Selkirk, commemorating the exploits of this intrepid traveller, and his premature death in 1805.

Coaching in comfort amid the beautiful trees and parks that encircle the country seats of present day proprietors, it is easy for one to efface from memory the forays and depredations of bold outlaws and Border chieftains of bygone generations; but the sight of "Newark's towers renowned in Border story" brings back to mind the performance of doughty deeds, which, if not in truth enacted there, were sung by yon "wandering Harper, scorn'd and poor, who begged his bread from door to door," and at the instance of that high dame that "gave him heart and gave him time," poured forth "to lord and lady gay the unpremeditated lay." Newark, as its name suggests, replaced an ancient pile called Auldwark, erected in the near vicinity, and consists at the present time of a large square roofless tower, with outer walls and turrets, in a fairly good state of preservation. Dating from the year 1466, it was bequeathed to Margaret of Denmark, Queen of James III., as part of her Forest dowry, and in due course to Margaret of England, Queen of James IV., at length falling into the possession of the Scotts of Buccleuch, in whose

family it remains, one of them having been appointed in 1542 "captain and keeper of the place and castle of Newark, with power to make deputies and constables." The Castle, however, though romantically situated, owes its fame rather to the poetic fancy of the Border Minstrel, than to the prowess of "mighty earls," having been selected by him as the scene of the recital of the *Lay of the Last Minstrel*.

Passing on the right the handsome modern mansion of Broadmeadows—to which in 1803 Sir Walter Yarrow. Scott, in the hope of becoming its possessor, appointed the Ettrick Shepherd to be steward—and the road over Minchmoor, a broad-based mountain rising 1,856 feet above the sea-level, and dividing the valleys of the Yarrow and Tweed, the traveller reaches Hangingshaw, the home of the "outlaw" Murray, who maintained a retinue worthy of a king, and, if the burden of the ballad regarding him may be accepted, was in a position to treat with his rightful Sovereign on his own terms. The old tower has entirely disappeared; but the situation, at a time when the surrounding hills were clad with Forest trees, was eminently suited to serve as the stronghold of a disaffected baron. The late Dr Russell, in his *Reminiscences of Yarrow*, narrates: "Hangingshaw Castle had a commanding position halfway up the hill, with a long straight avenue in front and behind, flanked by noble beeches. A few feet of the walls, with a broken arched chamber, were still to be seen within the memory of man. The more modern Mansion-house that stood hard-by was burned to the ground while still in the possession of the Murrays—a circumstance that crowned their misfortunes." From this point the prospect widens, and assumes a pastoral character, the Yarrow, lined by mountain ash and hazel, glistening like a thread of silver amid a landscape seamed with rills and mountain pathways, along whose course full many a deed of chivalry and vengeance has been enacted. Following the excellent Itinerary provided by Mr Craig Brown, the party had their attention drawn to the farm of Tinnis, on the right, which in 1600 passed from the possession of the Homes, represented by John, brother to Alexander Home of Manderston, Berwickshire, into that of James Pringle of Buckholm, and thereafter in 1619 became the property of the

Earl of Buccleuch. The name occurs in the neighbouring counties of Peebles and Roxburgh, and has been explained in the case of the former as a corruption of Thane's Castle, though no grounds for the conjecture have been given. On the left of the road is situated Deuchar Mill, and near it, though invisible from the road, the remains of Deuchar Tower, whence the hill-road, known as Deuchar Swire, and memorable for the duel fought in 1609 between Walter Scott of Thirlestane and John Scott of Tushielaw, leads over the hills by Traquair to the valley of the Tweed. Hard by also stands the dismembered bridge of Deuchar, the lone monument of the flood of 1734 which robbed the hillmen of a valuable means of communication, said by the Ettrick Shepherd to have been founded by one of the Earls of Buccleuch, and to have borne the arms of that noble family.

On reaching Yarrow Kirk, a distance of nine miles from Selkirk, the party was joined by Rev. Robert Borland, minister of the parish, who, had time permitted, was prepared to conduct them over the Church, built in 1640, and repaired in 1826 and 1876, and containing a mural tablet to the memory of John Rutherford, ordained and admitted to this charge 30th September 1691, who was also Sir Walter Scott's great grandfather on his mother's side. Bordering on the glebe lands, and about half a mile further West, stands a monumental stone of great antiquity, which has for long baffled the ingenuity of antiquarians. It is now known as the "Liberalis Stone," and attracted the attention and fired the romantic genius of Sir Walter Scott. While the ground in the neighbourhood was being prepared for cultivation, it was laid bare by the ploughshare, lying prone, and covering a grave in which human remains were discovered. On examination it proved to bear on its rough and irregular surface a rude inscription, scratched rather than engraved, which for many years defied all attempts at decipherment. It was at one time removed by the Duke of Buccleuch, the principal proprietor in the parish, to his residence at Bowhill, and round it was woven a legend by Sir Walter to the effect that it commemorated a combat, in which one named Annan proved the victor. In 1833, after Scott's death, an attempt was made by the late

Rev. Dr James Russell to interpret the Latin words inscribed upon it, which proved so far successful; but it was left to the learned Principal of Jesus College, Oxford, Dr John Rhys, with the assistance of the present parish minister, to trace their full significance, which was at length obtained by reading up and down from the left side, in place of the ordinary method from side to side. One phrase is still wanting, but this is owing to an imperfection in the stone, a small portion on the right hand corner having been broken off. The inscription reads thus: "Hic memoriae insignissimi principis Nudi Dumno geni hic jacent in tumulo duo filii Liberalis." In an article contributed to *Chambers' Journal* of 1st July 1904, entitled "The Dowie Dens of Yarrow," Rev. Mr Borland hazards a conjecture regarding the history of this illustrious Prince Nudus, and the antiquity of the stone. Having premised that it stands in close proximity to the Catrail, an earthwork in the form of a ditch which runs from Peel Fell in the Cheviots to Galashiels, and which is generally accepted by antiquarians as forming the march or boundary between the Angles of Bernicia and the Britons of Strathclyde, he draws attention to a tradition that an engagement between them is ascribed to this vicinity, which still retains the local title of the "Warriors' Rest." "The King of the Britons of Strathclyde at this particular period," he says, "was Roderick Hael, the 'Liberal,' and in the *Four Books of Wales* we read of one Dungual Hen, who had a grandson called Nud, also called Hael or Liberal, whose son Dryan fought at Arrderyd in 573. It would therefore appear that the two sons of Liberalis, whom this stone commemorates, were the sons of Hael, the King of the Strathclyde Britons. This stone is the oldest British inscribed stone in existence." The subject is more fully treated by him in a Paper included in this year's Proceedings; and an impression of the markings on the stone by Miss Russell of Ashiestiel, may be seen in Plate I., Vol. x., Part 1., of the same.

Half the journey to Rodono had now been completed, and still the romantic interest enfoldng it gave no indication of abatement. Near by, on the left, stands the farm of Ladhope, valued in the Exchequer Rolls, 1455-68, as yielding £6 yearly,

**Upper Vale
of Yarrow.**

to whose possessor in 1507 was granted leave to build a stronghold against the attacks of marauders, which in 1543 and 1544 was successively demolished by an inroad of the English, represented by the Armstrongs. A little further West, on the right, is situated the hamlet of Yarrow-feus, at present occupied by artizans employed by the neighbouring farmers, and reminiscent of a state of things existing since 1792, when portions of land in this district were allotted in feus, which have survived in the name now given to this industrious colony. Immediately behind these, and on a ridge overlooking the farm of Catslackburn, stood the tower of Catslack, regarding which the legend runs that in 1548 the Kers, assisted by the English, reduced it to ashes to wreak vengeance on their inveterate foes, the Scotts, and that in the conflagration the aged widow of Buccleuch, herself a Ker of Cessford, perished. At the Gordon Arms Inn, so named in honour of its builder, and distant thirteen miles from Selkirk, a halt was made to allow the travellers an opportunity of visiting the last meeting-place of the Etrick Shepherd and the Border Minstrel, and of viewing the farm of Mountbenger, originally Mont Berger, or "Shepherd's Hill," long occupied by the flocks of the King and Queen. Behind the present farmhouse, on a rising knoll named Bengerknowe, was situated the temporary abode of the Etrick Shepherd, where he sought to gratify his early ambition of becoming a stock-farmer in the district where, as a boy, he had indulged his day-dreams; but encountering misfortune in various forms, he ultimately retired to Altrive, and died in the farmhouse of Eldinhope, on the South side of the river. The Inn occupies an angle where the Innerleithen road intersects the road from Yarrow, at a distance of twenty-one miles from Moffat, and six and a quarter miles by the Hartleap road from the Etrick valley, near Tushielaw. Three miles further West lies St. Mary's Loch; but ere reaching it the Douglas Burn is crossed, which takes its rise in the Dun Rig, 2,500 feet, the highest point in Selkirkshire, and in its course towards Yarrow flows past the ruins of Blackhouse Tower, a baronial residence of the Lords of Douglas, and traditionally the scene of "The Douglas Tragedy." Overlooking the Eastern extremity of the lake, and occupying a slight eminence

above the road, are visible the massive, square, and four-storeyed ruins of Dryhope Tower, a former seat of powerful Scotts, and birthplace of "The Flower of Yarrow," but now the shelter only of browsing cattle. The frequency in this district of the termination "hope" is noteworthy, because, while usual in the valleys of the Yarrow and Ettrick to distinguish place-names, it disappears to a great extent as one crosses the single range of hills separating them from the valley of the Tweed, where "hope" gives place to "lea," as in Thornielee, near Galashiels.

From this point on the route is gained the first view of St. Mary's Loch, so beautifully depicted in the Introduction to the Second Canto of *Marmion*. Though now separated from the adjacent Western lake, locally styled the Loch of the Lowes, which, in spite of the difference of fifteen inches in level, had originally belonged to it, it remains the largest loch in the South of Scotland, measuring seven and a half miles in circumference, and three miles in its extreme length, while the broadest portion between Coppercleugh and Bowerhope expands to nearly a mile. One's first impression of the scene is that of silence and solitude, suggested by Sir Walter's language:—

"There's nothing left to fancy's guess,
You see that all is loneliness;
Your horse's hoof-tread sounds too rude,
So stilly is the solitude."

Lone truly is this mountain-tarn, without a tree or bush or sedge to ornament its shore, or interrupt "the trace of silver sand, that marks where water meets the land." Encircled by hills, "shaggy with heath, but lonely bare," it reflects their huge outline on a surface so pure and placid as to have drawn from Wordsworth the familiar couplet:—

"The swan on still St. Mary's lake
Float double, swan and shadow."

Favoured with sunshine the party had ample opportunity of

breathing the freshness of the mountain air, and inhaling the spirit of romance that haunts the solitude,—a lung and heart tonic so restoring that from one of their number, now greeting from across the ocean “the land of the mountain and the flood,” there broke forth this tribute to the charm that pervades the scene:—

“Though your face may change with the changing lights
 And the moods of the hills, St. Mary’s,
 You are always the bath of the moorland sprites
 And the cup of the mountain fairies;
 And every stone on your misty marge,
 And each wave of your sun-tipped glory,
 Has woven a word of your fame writ large
 On our Border song and story.”

On the slope above the Loch, but invisible from the road, may be traced the foundations of a church, **St. Mary’s Kirk.** dedicated to Our Lady, of which mention is made in 1275, when Bagimund came from Rome to Scotland to collect the tenth ecclesiastical benefices for the Crusades, and regarding which the oldest existing reference is contained in an order by Edward I. in 1292, presenting the living to Master Edmund de Letham. The building was burned in 1557 in the course of a clan feud between the Cranstouns and Scotts, but, on Sir Walter’s authority, continued to be used as a place of worship during the seventeenth century. Its walls are now almost entirely obliterated, though the burying-ground still serves the purposes of a local cemetery. A mile further on a modern church belonging to the heirs of the Disruption Fathers was formally opened for worship by the late Dr Thomas Chalmers in 1845, and is now known by the name of Coppercleuch. Beyond it about half a mile the Meggat Water, which has its source in Peeblesshire, empties its waters into the Loch, on whose banks formerly stood Henderland Tower, a Forest fortress, whence was dragged William Cockburn, a notorious free-booter, to be executed at Edinburgh in 1530, by command of James V.

In fulfilment of their expectations, members reached Rodono Hotel punctually at two o'clock. This is a modern structure of considerable dimensions, situated on the wooded hillside above the road, and on land which formerly belonged to the Abbey of Melrose. Upwards of thirty members and guests sat down to dinner, at which, in addition to the usual toasts, the health of Mr T. Craig Brown was cordially pledged, in acknowledgment of the care bestowed upon the preparation of the day's Itinerary, and his readiness to impart information regarding the historical features of the drive from Selkirk. Nominations in favour of Mr John Henderson, Fawside Lodge, Gordon, and Mr W. J. Marshall, Berwick, were duly intimated. After dinner an hour or more was available for a ramble about the Loch, which, in spite of a drizzling rain, was taken advantage of to view the monument to James Hogg, now enclosed on the rising ground directly opposite the neck of land separating the two sheets of water, and which was inaugurated in 1860 to the memory of the Ettrick Shepherd, who had expressed the hope that, when he was "cauld in the mools," there might be raised "a bit monument to his memory in some quiet spot forenent Tibbie's dwelling."

At 4-45 the brakes left Rodono Hotel, and the return journey was begun in better weather. The same route as in the earlier part of the day was followed until Hangingshaw Drive was entered, when, by a slight detour through the grounds of Bowhill, the main road was crossed, and the beautiful mansion of Philiphaugh was reached, where Mr William Strang Steel, its proprietor, had time permitted, would have hospitably entertained the company. This was found to be impracticable, and the members had reluctantly to content themselves with a too hurried visit to his extensive gardens, which greatly delighted and impressed them. Everything that taste and care and means could do had been done, and that successfully, to make them beautiful and effective. Seldom indeed have gardens and cultivation under glass been carried to such a pitch of perfection, two splendid peach trees, which together completely filled one large house, having

that season yielded nearly one thousand peaches of fine quality. Another noticeable feature was that a large part of the Kitchen-garden, devoted to currants, gooseberries, and raspberries, was entirely protected, both overhead and laterally, by wire-netting, a precaution which the enormous increase of sparrows, and the prevalence of other bud-destroying birds, had rendered necessary.

Selkirk was reached at 7.45, and a very pleasant excursion was thus brought to an end without a hitch or untoward incident, the very rain accommodating itself to the convenience of the strangers, by confining itself to the space of time when shelter could be obtained in or near Rodono.

ESLINGTON PARK, NORTHUMBERLAND.

THE FOURTH MEETING of the year was held on Wednesday, 24th August, at Whittingham. A very dirty morning greeted the first arrivals at the Railway Station, as a heavy rain, driven by a North-easterly wind, rendered the prospect uninviting. By the time the Berwick train appeared, however, bringing the larger portion of the members, the clouds had rolled away, and a clear sky gave promise of a pleasant outing. Among those present were noted:—Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, B.D., Editing Secretary; Mr George Bolam, F.Z.S., Treasurer; the Misses Aiken, Ayton; Mr William B. Boyd and Miss Boyd, Faldonside; Mr W. K. Dickson, Edinburgh; Mr D. D. Dixon, Rothbury; Mr Arthur H. Evans, F.Z.S., and Mrs Evans, Cambridge; Mr William Maddan, Berwick; Mr B. Morton, Sunderlând; Mr J. L. Newbigin, Alnwiek; Mr W. M. Pybus, Newcastle; Mr T. B. Short, Berwick; Miss Simpson, Coldingham; Mr E. Thew, Warkworth; Mr James Thomson, Redcar; Rev. Canon Walker, and Messrs K. P. and E. E. Walker, Whalton; and Dr Watson, Whittingham.

Leaving Whittingham Station at 11-30 the party divided, a portion choosing the high road to avoid the **Aln Water.** damp grass, and another electing to follow the course of the river Aln, noted for its yellow trout, the water being strictly preserved by the Ravensworth family. The stream flows through a rich meadow-land, which supplied the Botanists with a large number of interesting specimens, chief among which was *Scirpus sylvaticus*, which was found in unusual profusion. Along its banks, or in its immediate vicinity, were also observed:—

Circea lutetiana; *Silaus pratensis*; *Solidago Virga-aurea*; *Veronica Anagallis*; *Mimulus luteus*; *Mentha sativa—cardiaca gentilis* L.; *Epipactis latifolia*; *Sparganium ramosum*; *Juncus glaucus*; *Carex remota*; *C. paniculata*; *C. ampullacea*; *C. paludosa*; *C. riparia*. So entertaining did the ramble along the water-course prove, that the hour named for assembling at the parish church of Whittingham, situated above its banks as it flows through the old fashioned hamlet of the same name was almost forgotten, and a word of remonstrance well nigh escaped the lips of those of the larger contingent who had reached the village by the public road.

Among North country villages Whittingham occupies a place of honour in respect of its history and picturesque surroundings. The name, which is of Saxon origin, has been given to a quiet hamlet situated on the banks of the Aln which divides it into two portions, that on the North side entitled "the Church Town" including in former days the church, the vicarage and the schools, and that on the South, an ancient pele-tower, the court-house, and the Castle Inn. A delightful irregularity marks the arrangement of the dwelling houses and shops, and preserves the old-world character of the place. It has been identified by some with the "Twyford near the river Alne" mentioned by Bede as the scene of a great Synod assembled in the presence of King Egfrid 664, at which Cuthbert was chosen Bishop of Lindisfarne. During the civil war in the seventeenth century it was visited by a company of 400 horse, who came from the Brandon Hills singing psalms all the way, but whose devotion to such spiritual exercises did not prevent their manifesting civility and making payment for the breakfast which its straitened stores provided. A second invasion overtook it in the summer of 1648, when Cromwell's Roundheads made prisoners of Lieutenant-Colonel Millet and 200 horse. Little of a warlike aspect marks the village to-day, though there remains in excellent preservation the ancient Border keep which had dominated and protected the dwellings clustering round it. The basement consists of the usual stone-arched

vault supported by walls nine feet thick, whose original doorway with a pointed arch in the South wall suggests its belonging to the fourteenth century. In 1416 it belonged to William Heron, a member of the illustrious family which held Chipchase Ford and other strongholds. During succeeding centuries it doubtless witnessed many a scene of violence and bloodshed, but now through the noble generosity of the wife of the late proprietor it has been transformed into an almshouse, a tablet above the doorway setting forth how "By the munificence and piety of Lady Ravensworth, this ancient tower, which was formerly used by the villagers as a place of refuge in times of rapine and insecurity, was repaired and otherwise embellished for the use and benefit of the deserving poor, A.D. 1845."

In the unavoidable absence of the vicar, the members were conducted through the parish church **Church of St. Bartholomew.** by the Rev. E. H. Brodhurst, curate of the parish, who supplied much valuable information regarding its history and structure.

It is dedicated to St. Bartholomew, who is commemorated in a stained glass window at the West end of the South aisle, and on whose festival, as it chanced, the Club paid their visit to this ancient place of worship. It occupies the site of a Saxon church, a part of whose original walls is included in the present building. Prior to the restoration of 1840, the hoary tower remained almost complete with the exception of its battlements, illustrating the distinctive features of Saxon masonry in the long and short structure of the external angles of the building and in the rude baluster between the upper windows. The existing remains of the ancient edifice are noticeable in the lowest stage of the tower, as well as in the return angles of the nave on both the North and South sides. The tower rises abruptly from the ground, without indication of base or plinth, and the corner stones of it are built in the manner already indicated, a long upright block alternating with a short horizontal one considerably broader, which serves as a bond-stone to unite the rubble walling and hold it together.

In spite of its age and long exposure to the weather, the masonry shows little sign of wear, the sandstone of which it is composed possessing manifest durability. The exact date of this Saxon building cannot be fixed with any certainty, though Bates attributes to Egred, bishop of Lindisfarne, the erection of a church at Whittingham between the years 831 and 847. In the year 1090 the tithes of Whittingham were granted to the monks of Tynemouth, but early in the next century Henry I. conferred the church there on his chaplain for the use of the Priory of Black Canons, which he had founded at Carlisle, in consequence of which the patronage of Whittingham remains to the present day in the gift of the Dean and Chapter of Carlisle. It is of interest to note that during the Commonwealth a Presbyterian minister, named Abraham Hume, a native of the Merse, and chaplain to the Countess of Home, was presented to the living, and continued to hold office till St. Bartholomew's Day 1662, when, refusing to conform to the Church of England rites and form of government, he was forced to resign and betake himself to London, where he ministered to a congregation of Non-conformists in Drury Lane, till his death, 29th January 1706-7. From what remains of the ancient building it is possible to form some idea of its outline. It would probably consist of a chancel, a nave 17 feet wide and lofty in proportion to its width, having a heavy round-headed chancel arch and round-headed windows of a single light, with a square tower at the West end. The ground plan of this tower is only of small dimensions, the chamber in the basement, now used as a vestry, being 11 feet square. During the twelfth century a North aisle was added by an arcade of four Norman arches, which unfortunately were deemed unworthy of preservation during the restoration of the church in 1840. These are now replaced by an arcade of four pointed arches corresponding with the original Early English one on the opposite side, which was erected in the thirteenth century, when the South aisle was added. The window next the pulpit in the North transept contains an interesting fragment of old English architecture, the upper portion of the light being formed

of a single stone. An old piscina under a trefoil-headed canopy was more recently discovered in the South wall of the South transept, proving that prior to the Reformation that portion of the building had been used as a chantry. The present building consists of a nave, North and South aisles, a restored chancel, baptistery, South porch and Western tower. An ancient stone Latin cross, which may have served as a boundary or churchyard cross, was found in the North wall of the churchyard, and has been transferred to the wall adjoining the East stile.*

Two miles distant from the parish church, and situated on the North bank of the river Aln, lies **Eslington Park.** Eslington, the seat of the Earl of Ravensworth. This ancient manor was formerly the possession of a family who took the surname of Eslington, but it afterwards passed through the hands of the Hesilriggs, the Herons, and latterly the Collingwoods, who each in turn took part in the numerous warlike enterprises associated with the history of Northumberland. In 1335 its owner was licensed to fortify his dwelling there, but of this crenellated structure no trace is left, the only architectural relic in the neighbourhood being a fine Jacobean doorway now built into the North wall of the kitchen-garden. On account of the part taken by its owner, George Collingwood, in the Jacobite rising of 1715, the estate was forfeited to the Crown, from whose Commissioners it was purchased by Sir Henry Liddell in 1719. From the date of its purchase, six members of the Liddell family have held possession. In 1821 Sir Thomas Henry Liddell, sixth Baronet, was raised to the peerage, and one of the hatchments in the parish church testifies to his having reached the age of eighty years. To him there succeeded his son, the Hon. Henry Thomas Liddell, the late Earl of Ravensworth, who died in 1878, lamented by all on the Eslington estate, and was followed in the estates by the present Earl, whose youth was marked by his devotion to all manly sports. Through the kindness of the present lessee, Mrs Mitchell, the Club were permitted to enter the

* "Whittingham Vale" (D. D. Dixon), pp. 194-220.

grounds by the new carriage-road which leads through a well-wooded park, stocked with a fine herd of fallow deer, and following the South bank of the river Aln terminates in a fine terrace in front of the mansion-house. In former days the drive lay along the North side of the river, as is shown by the turf-covered road which crosses it at the "Lady's Bridge," figured by Bewick in a well-known woodcut. The modern building, which dates from 1720, forms a stately quadrangular block of warm-coloured freestone, built on an artificial terrace on the North bank of the river, and surrounded by tastefully laid out gardens and shrubberies. In proof of the salubrity of the climate, special note was taken of a plant of Mahonia (*Berberis aquifolium*), which had been trained upon the front wall, and whose clusters of fruit of a remarkable size and bloom formed a very beautiful decoration. A sheet of water on the West side of the house is edged with a splendid growth of Great Reed-Mace (*Typha latifolia*), Purple Loosestrife (*Lythrum salicaria*), Meadow-Sweet (*Spiraea ulmaria*), Great flowering Dock (*Rumex Hydrolapathum*), and Great Hairy Willow-herb (*Epilobium hirsutum*), among which many water-fowl might be seen darting to and fro in search of food. The flower garden has always been remarkable for its profusion of bloom, and the shrubberies for the care bestowed upon them by the overseer, Mr Joseph Oliver, one of our members, and a genuine type of a sterling Northumbrian, as well as by his assistants. They abound not only in fine specimens of modern flowers—the Sweet Peas being trained to a height of twelve feet—but in good examples of old-fashioned herbaceous plants, without which no garden is ever complete. Conspicuous on the terrace were beds entirely filled with Lithrum, whose rich pyramidal spikes contrasted well with neighbouring plots of Marguerites, the massing of single colours being a noteworthy feature of the gardener's art. A fine Arborvitæ on the lawn is shaped after the pattern of a peacock, a relic of the topiary work of an earlier generation. It was with regret that the members learned that many of the finest trees of the park, including a splendid Silver Fir which had reached the height of one hundred and twenty four feet, had succumbed to the gale of Saturday, December 29th 1894. Among curiosities in the garden

was shown a large red gooseberry bush, which was known to have borne fruit in 1826, when the late Mr Anthony Oliver entered upon his duties there, and was believed to be then upwards of thirty years old. It is still in good bearing condition. Birds were not specially remarked during the excursion, but Mr Oliver states that "he has counted no less than fifty varieties within a radius of one hundred yards from his house, while beyond that radius he has noted other twenty varieties, not including colonists." The thanks of the members were accorded to him and to Mr John Wightman, gardener, for their kind services to them during their visit. After more than an hour's stroll about the grounds, the party retraced their steps, and in brilliant sunshine returned to Whittingham.

At 5-30 they reassembled at the Castle Inn, where under the genial chairmanship of Rev. Canon Walker they partook of an excellent **Club Dinner.** dinner, and duly honoured the customary toasts. A congratulatory telegram from the President, Mr G. G. Butler, F.G.S., who was on a holiday in the island of Mull, was received, expressing his regret in being unable to be present, and conveying good wishes for a successful outing. The Organizing Secretary intimated a Nomination in favour of Mrs Burn Murdoch of St. Abb's, Berwickshire, and called for any papers or exhibits in compliance with the notice given in the circular calling the meeting. An ancient bayonet of the Georgian period, discovered in the cellar beneath the Whittingham Pele-tower, which had been visited earlier in the day, was exhibited, as well as an Ammonite, dug out of a wall at Eslington by the present gardener.

INNERLEITHEN FOR TRAQUAIR HOUSE,
AND THE GLEN.

THE FIFTH MEETING of the year was held at Innerleithen on Thursday, 22nd September, when a company of upwards of sixty assembled at the Traquair Arms, about noon, to join in the drive to Traquair and The Glen. Among those present were noted:—Mr George G. Butler, Ewart Park, President; Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, B.D., Editing Secretary; Mr George Bolam, F.Z.S., Treasurer; Miss Alison, Edinburgh; Mr Norman B. Avery, Redhill; Mr W. Arras and Mrs Arras, Melrose; Mr John Barr, Berwick; Mr A. V. Begg, Edinburgh; Mr Hippolyte J. Blanc, A.R.S.A., Edinburgh; Mr Wm. B. Boyd, Faldonside; Mr R. Carmichael and Mrs Carmichael, Coldstream; Dr Thomas F. S. Caverhill, Edinburgh; Mr John Cochrane and Mr Archibald Cochrane, Galashiels; Mr J. Hewat Craw, Foulden; Mr T. Craig Brown and Mr A. P. Craig Brown, Selkirk; Sir George Douglas, Bart., Springwood Park; Mr A. M. Dunlop, Crawford; Mr Wm. Dunn and Mrs Dunn, Redden; Mrs Ewart, Edinburgh; Major V. Farquharson, Edinburgh; Mr George Fortune, Duns; Mr Gideon J. Gibson and Miss Gibson, Netherbyres; Dr R. Shirra Gibb and Miss Gibb, Boon; Rev. James Goldie, Walkerburn; Mr J. G. Goodchild, F.G.S., Edinburgh; Dr H. Hay, Edinburgh; Mr George P. Hughes, Middleton Hall; Mr Hugh M. Leadbetter, Legerwood; Mr Thomas G. Leadbetter, Swinton House; Mr James Lyle, Edinburgh; Major J. F. Macpherson, Edinburgh; Mr William Maddan and Mr J. G. Maddan, Berwick; Mr J. L. Newbigin, Alnwick; Mr Henry Paton and Mrs Paton, Edinburgh; Mr T. J. S. Roberts, Drygrange; Mr

Henry Rutherford, Fairnington; Rev. Evan Rutter, Spittal; Mr Wm. Sanderson, Glasgow; Mr T. B. Short, Berwick; Miss Simpson, Coldingham; Mr Andrew Smith and Mrs Smith, Whichester; Mr Wm. Strang Steel and party, Philiphaugh; Mr W. M. Thorburn, Melrose; Mr James A. Terras, Edinburgh; Mr John Turnbull, Galashiels; Mr William Weatherhead, Berwick; and Mr Thomas Wilson, Robertson.

The manufacturing centre whence the day's excursion was planned, is said to be the prototype of the scene in which Sir Walter Scott laid the story of "St. Ronan's Well," of which a very sombre picture is sketched in its opening chapter. The decaying village of St. Ronan's stood on a site, he says, "singularly picturesque in a narrow vale, through which a river of considerable magnitude pours its streams," but "the greater part of its cottages had long been deserted, and the fallen roofs, blackened gables, and ruined walls showed desolation's triumph over poverty." An altered and much improved aspect is worn by the Innerleithen of to-day, which along with its neighbour, Walkerburn, has assumed the appearance of a busy and well-to-do provincial town, to whose restored prosperity woollen manufactures have largely contributed. Traquair Arms, where brakes were provided, stands at the outskirts of the town, within a few minutes' walk of the Railway Station, and supplies good accomodation for a large number. There several members foregathered on the previous evening, and were made thoroughly comfortable.

The drive to Traquair lies across the Tweed, which is spanned by the Droonpouch Bridge about half a mile from the town. At its South end the road from Elibank and Ashiestiel is joined, which passes on the left a hill-track over Minchmoor, by which the vanquished Montrose may have retreated from Philiphaugh as he sought a place of safety under the roof of his kinsman, the Earl of Traquair. The entrance to the mansion-house lies on the right of the road, along a carriage-drive which crosses the water of Quair by a modern bridge, which has superseded the

old ford a little lower down the river. Remote from the public highway, and seldom on view to strangers, Traquair House occupies a charming site on the haughs of the Tweed, which are beautifully wooded. Subjected to several extensions, which at present form three sides of a square, it preserves its antique appearance probably better than any other inhabited house in Scotland. Passing through the beautifully wrought iron gateway on the South-west of the building, whence a memorable prospect opens out for nearly half a mile along a grass drive flanked by double rows of beeches, which have superseded the original firs, and terminating in a gateway, with great pillars surmounted by bears supporting armorial shields, the members were received at the main door of the house by the proprietor, The Honourable H. C. Maxwell-Stuart, his brother, and the local agent, Mr Constable, all of whom did their utmost to render their visit interesting and pleasant. Owing to the feeble state of portions of the building which are believed to date back to a period prior to the Norman Conquest, only a small number could be admitted at one time, but through the exercise of patience the whole party were allowed to view the historic rooms and relics, and partake of their host's kind hospitality.

On the North and South sides of the square are low extended structures, one storey high with attics, which serve as offices, while on the North-east front of the house has been raised a high terrace, entering off each end of which is a square pavilion with an O. G. roof. The mansion itself belongs to at least three periods, the oldest portion being a rectangular block at the North-east corner of the quadrangle, with a projection enclosing the staircase. The conjecture has been hazarded that this projection supplied the original entrance, which owing to modern requirements has been removed to the middle portion. To the second period belongs an extension to the South-east, which was widened so as to include the projecting staircase of the older portion, and ornamented with turrets at the angles. On the centre dormer window, facing the courtyard, is carved the date 1642, thus marking the age of the

building, which is believed to have been enlarged by the first Earl of Traquair, who from being a mendicant in the High Street of Edinburgh rose to be High Treasurer of Scotland under Charles I. To the third period may be attributed the wings on both sides of the square, and the aforesaid gateway and railing in front. The entrance door-way, with its bold architrave and iron-studded door pierced by two small windows, bears a knocker, coveted by Sir Walter Scott, and dated 1705, and a latch, which are good specimens of the quaint iron-work of the time. On the right of the main door is built a strong-room, fitted for the reception of prisoners, to whom food could be served through an aperture in the roof, in which a number of historical charters were at one time stored, but being exposed to the action of damp were reduced to pulp between sixty and seventy years ago. From this chamber runs along the whole length of the oldest part of the building an arched passage, leading to vaulted cellars, probably employed for the storing of cattle and other necessaries, and terminating at the secret staircase. On the same floor is situated the present kitchen, in which during operations in connection with the building in of a modern range two skeletons were exposed. For other architectural features and an excellent plan of the house we refer to MacGibbon and Ross' "Castellated and domestic architecture of Scotland," from which we have gleaned valuable information.*

In the report of a former visit in 1881, notice is taken of many of the objects of interest in the possession of the ancient family of Traquair, to one of whose scions, "James Stuart, Earl of Buchan, maternal uncle to James III.," the estate was bequeathed by a charter from the Crown, dated 3rd Feby. 1478; but in view of their unique interest, it may be well to enumerate a few of them. A chamber on the second floor of the oldest part of the building retains on its South-east wall considerable remains of painted decoration, the subjects of which are scenes of Eastern life,

* Vol. II., p. 441, Fig. 876.

varied with floral scrolls, around whose borders are traced Scripture quotations in old German lettering, which have unfortunately lost much of their original brightness. In the same room was shown a secret staircase leading down to the Tweed, which at one time flowed close by the North-east corner of the house, but whose channel was diverted some distance higher up, giving place to an artificial lake surrounded by fine old trees, and the sanctuary of numerous water-fowl. The staircase has always been explained as having been employed as a means of safety for persecuted priests; and it is related that on one occasion a lady visitor made the demand to be allowed to explore its hidden exit, to which the jealous owner made answer by giving instructions for its being entirely built up during the night! It is situated on a level with the room pointed out as originally used for a private chapel, which doubtless has given rise to the legend that it was reserved solely for the safe conduct of the clergy. In a very ancient and propped-up lumber-room were exhibited a spinet of date 1651, constructed by Andreas Ruckers of Antwerp, an early Italian violincello inlaid on both sides, and samples of antique tapestry. In the Library much interest was evinced in a fine folio copy of the "Nuremberg Chronicle," a German history of the world, printed in Nuremberg in 1493, whose original in Latin was produced in the same place and at the same date. It is most remarkable for the number and the beauty of its woodcuts, of which there are very many. There was shown also a counterpane for a cradle, wrought in low-toned crewel wool in which blue is the prevailing colour, by Queen Mary and her waiting-women. In the Drawing-room stand the cradle of King James VI., made in oak, and a cabinet of priceless Jacobite relics, including a lock of Prince Charlie's hair. This room communicates with one which retains the title of Queen Mary's Room, though the coat of arms, showing the initials M.R. with unicorns as supporters, was taken from it and placed above the door of the present Dining-room. A valuable collection of family portraits adorns the walls of the Dining-room, including a fine picture of the Seton family painted on wood, which is the original of a much prized replica.

Mr Maxwell Stuart's anxiety to gratify his guests had been already proved by his unlocking a cabinet of precious stones of which he is a collector, and explaining the methods in vogue for testing and cutting such gems; but it was none the less manifest when he produced for the inspection of the ladies samples of valuable linen, among which were napkins, bearing the name "Mary, Countess of Traquair, 1729," woven into the damask. *En suite* with the Dining-room are the low Drawing-room and the present Smoking-room, which are of more immediate interest as having been used till the date of her death, in 1875, at the advanced age of ninety-nine years and eight months, by Lady Louisa Stuart, the last of the direct descendants of the Earls of Traquair. In the last named room hangs a painting of "King Charlie" dressed as Betty Burke in mutch and kerchief, the disguise adopted by him on the advice of Lady Clanranald, when sheltering in Benbecula near Loch Uskevagh. Though the art of the painter may have failed to reproduce "a gown of light-sprigged calico, a petticoat, a mantle of dun camlet with a hood to cover the head, Irish fashion," as depicted by Andrew Lang in his "Prince Charles Edward, the young Chevalier," it has preserved the strong Stuart features, which doubtless are more highly prized by those of his house, than mere accuracy of detail in the matter of dress. The parish of Traquair appears to have been from a very early period a Royal demesne, and frequently the residence of Royal personages for hunting, as charters have been dated from the mansion-house by King David I., and use was made of the building by William the Lion during an illness in 1203.

After spending a delightful time indoors, during which every facility was granted for minutely inspecting its old-world treasures, the members repaired to the terrace in front of the house, below which on the lawn flourishes a remarkable Silver Fir, and thereafter walked through the Kitchen-garden, divided by a roadway bounded by a strong hedge of beech, which leads to the Arboretum, whence a fine view of the drove-road from Carlisle over Minchmoor was obtained. Striking the modern carriage-

drive, which runs parallel with the disused avenue already mentioned, they reached the celebrated gates, guarded by bears supporting the family-arms, which have remained closed since the funeral cortege of the Countess of the seventh Earl passed through them. Before leaving the grounds of Traquair, the President expressed in the name of the members their indebtedness to The Honourable H. C. Maxwell-Stuart for the kindness and hospitality extended to them during their visit, and the pleasure that had been afforded them in inspecting its rare and valuable treasures.

By far the most charming portion of the day's drive lay in front, skirting the banks of the water of Quair, above which, in a field now named "The Infirmary," there flourished the famous Birch commemorated in Crawford's ballad, "The Bush aboon Traquair." On the South side of the stream lies the quaint grave-yard surrounding the parish church, the original burial-ground of the Stuart family. Close by is situated the farm of Traquair Knowe, once tenanted by William Laidlaw, author of the Border ballad, "Lucy's flittin'," and the scene also of the meeting of the Ettrick Shepherd and Wordsworth as they took their way to the historic valley of the Yarrow. Passing by Orchardmains, long occupied by members of the noble house of Cecil, whose zeal in the cultivation of land and the improvement of the breed of horses rendered their name a household word among Northern agriculturalists, the party reached the handsome lodge and gateway, surmounted by the legend "Salve," which lead

The Glen. to the Scottish residence of Sir Charles Tennant, Bart. This baronial mansion, built by Bryce in 1855, and largely added to in 1873, was at one time the possession of a Lord Provost of Edinburgh, from whom it was purchased by Mr John Tennant, St. Rollox, Glasgow, father of the present proprietor. The house lies East and West, and is flanked by wings of loftier elevation, the Eastern wing being surmounted by a tower and flagstaff. The main building consists of three storeys and a semi-sunk flat, while the wings are four storeys high, and diversified by numerous quaint turrets, crowfoot gables, and

gargoyles, which form a marked feature of the Scottish Baronial style. The South front possesses a fine double staircase leading from the house to the lawn, which was made use of on this occasion for the grouping of the members while a photograph was taken by Mr T. H. M. Colledge, Innerleithen, which proved remarkably successful. Surrounded by high hills clad with brake and heather, and extensive grounds on which the art of modern landscape-gardening has been lavishly expended, the mansion claims the admiration of every visitor. In the unavoidable absence of the proprietor, the members were received by Mr E. P. Tennant and Mrs Tennant who did all in their power to render their visit enjoyable. Conducted by their host, a party specially interested in ornithology were shown a collection of rare birds which had been obtained in the neighbourhood, a full list of which will be found in the Report of the former excursion to the Glen.* Meanwhile others betook themselves to the gardens, whose well furnished borders and healthy shrubs bespoke the skill and diligence of the head-gardener, Mr McIntyre. A visit to the conservatories and greenhouses revealed in a striking manner the encouragement which their owner accorded to the cultivation of fine fruit and rare flowering plants. An hour or more was thus pleasantly occupied before the members were summoned to partake of the proverbial hospitality of the lord of the manor in the form of a sumptuous tea, presided over by their gracious host and hostess. On the call of the President, who made a sympathetic reference to the unexpected death of his predecessor in that office, Rev. Thomas Martin, Lauder, announced in that day's daily paper, Mr and Mrs Tennant were very warmly thanked for their kindness. In responding, Mr Tennant expressed the pleasure it had afforded him and his wife to receive a visit from the Berwickshire Naturalists' Club, and his sincere regret that his father had been prevented from attending the meeting. At 4-30 o'clock the brakes were in readiness to convey the party back to Innerleithen, which was reached by 5-30.

* Ber. Nat. Club, Vol. ix., No. iii., pp. 488, 489.

The report of this excursion would be incomplete did it not include an expression of the regret which all who were so generously entertained on this occasion must have shared, on reading in the public prints of 5th February 1905 that this Border home had been reduced by fire to a roofless ruin, little being left but the charred walls and gaunt gables. Fortunately time was given and help was at hand to save most of the art treasures for which the mansion has long been famous.

The members sat down to dinner in the Traquair Arms Hotel, Innerleithen at 5-30 o'clock, under the Presidentship of Mr G. G. Butler. Mr George Bolam reported the appearance of the Lesser White-throat, *Sylvia curruca* (Linn.), in the neighbourhood of Berwick, where it was believed to have nested. A full description of the discovery of six Stone Pines (*Pinus pinea*) on the railway embankment between Dunglass East Lodge and Bilsdean, Cockburnspath, by Mr George Bolam, was read by Captain Norman, R.N., who claimed this as the most Northern station in our island for this Mediterranean species. The shelter of the embankment and the undergrowth of privet seem alone accountable for the preservation of this distinctly Southern variety. In answer to an advertisement in the "Scotsman" regarding these specimens, no occurrence of others in Scotland was reported. The following Nominations were received:—Thomas F. S. Caverhill, M.D., Edinburgh; Thomas Wilson, Schoolhouse, Roberton; Rev. Norman Macleod Wright, Ancroft; John Geddie, St. Ann Street, Edinburgh; Fred. R. N. Curle, Melrose; Walter M. Thorburn, Melrose.

BERWICK-ON-TWEED.

THE ANNUAL MEETING was held on Thursday, 13th October, in the Museum, at 1 o'clock. Among those present were the following:—Mr G. G. Butler, President; Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, Editing Secretary; Mr George Bolam, Treasurer; Mr Robert Blair, F.S.A., South Shields; Mr J. L. Campbell Swinton, Kimmerghame; Lady Elliott, Maines House, Chirnside; Rev. J. A. Findlay, Edinburgh; Captain J. A. Forbes, R.N., Berwick; Mr George Fortune, Duns; Dr R. Shirra Gibb, Boon; Mr G. T. Hughes, Middleton Hall; Mr John Lang and Mrs Lang, Highlaws; Major J. F. Macpherson, Edinburgh; Mr J. L. Newbigin, Alnwick; Mr H. Rutherford, Fairnington; Mr T. B. Short, Berwick; Miss Simpson, Coldingham; Mr Jas. A. Somervail, Broomdykes; and Mr William Weatherhead, Berwick.

On the arrival of the 11-51 train from Edinburgh the Organising Secretary conducted a party to the **Edwardian Walls.** West of the Railway buildings to view the remaining fragments of the ancient fortifications of the town, which have been threatened to make room for villas, sanctioned by the Berwick Town Council, on the site of the old fosse encircling the walls of the town. A protest having been lodged by the Club officials against proceeding with this wanton vandalism, special interest was manifested in portions of the wall still standing, which were described as merging in a square battery of more recent date, known as "the murderer," which stands at the North-west corner of the present enclosure. The ashlar work of the ancient wall, as well as of the Castle itself, has been destroyed in order to supply material for the erection of the new parish church and other public buildings, and only here and there throughout its whole length are there any traces of its perfect surface. Moving on towards the river, and halting at the Water Tower, which formed the original sea-entrance to

the Castle, Captain Norman pointed out, inside what is now known as the White Wall, the original steps by which access was obtained to the main building, as well as the wholly defaced exterior of the Edwardian Wall connecting it with the river. At one or two points Eastward well preserved portions of the same were seen, faced with a pinkish sandstone—the original material of which the whole ashlar work had been composed. In passing under the handsome Railway viaduct which spans the Tweed at this point, attention was directed to its combined grandeur and elegance, though its immense proportions are somewhat diminished by the proximity of other outstanding buildings. The members were delighted to learn that, in the interest of art and antiquarian research, a Society had been formed in the neighbourhood to acquire, if possible, the custody of all ancient monuments and landmarks, so that the perpetration of further acts of defacement may be effectually and for ever prevented.

On assembling in the Museum, the company were favoured with a suggestive and able address by the **President's Address.** President, who took for his subject what is known to Geologists as the Ewart Lake, extending over a wide area between the Tweed and the Cheviots, and including the land now designated by that name, explaining by means of diagrams the possible damming up of water in that district by the pressure of a glacier in the valley of the Tweed, and the consequent submersion of the courses of the Till, Glen, and Colledge. On the motion of Mr Hughes, a very cordial vote of thanks was accorded him for his lucid and interesting address. Thereafter he nominated Mr Wm. B. Boyd, Faldonside, Melrose, as his successor in the chair, an honour already conferred upon him in 1871.

The Editing Secretary read a summary of the meetings held at Yeavinger Bell; Kielder; St. Mary's Loch; Eslington; and Traquair, all of which **Annual Reports.** had been favoured with fine weather, and proved successful. Mr G. P. Hughes gave in his report as delegate to the British Association at Cambridge, and named as his successor Mr A. H. Evans, M.A., Cambridge, whose appointment was unanimously sustained.

The Treasurer intimated a satisfactory balance-sheet, and suggested that the subscription for the year might be reduced to seven shillings and sixpence. This was cordially approved of.

The following places were selected for next year's excursions:—Howick; St. Boswells, for Langmoss, or Thirlstane; Sweethope; Edinburgh; Dun-
Places of Meeting. glass or Yetholm, it being remitted to the Executive to fix the dates as might prove most suitable.

The following were elected members of the Club, after due nomination:—Rev. J. F. Scholfield, Holy
Election of Members. Island; Rev. Edmund Williams, Bamburgh; Fred. G. Skelly, Alnwick; Robert O. V. Thorp, Chathill; William Mark Pybus, Newcastle; Thomas Henderson, Fawside Lodge, Gordon; William James Marshall, Berwick; H. H. E. Craster, Oxford; Mrs Burn-Murdoch of St. Abbs; Rev. Norman Macleod Wright, Ancroft; Walter M. Thorburn, Melrose; Fred. R. N. Curle, Melrose; Thomas F. S. Caverhill, M.D., Edinburgh; John Geddie, Edinburgh; Thomas Wilson, Robertson; David Graham, Edinburgh; James McWhir, M.B., C.M., Swinton.

There were laid on the table two skulls—probably of horses—which had been found buried in the
Exhibits. alluvium of the River Glen, at a depth of 9 feet from the surface, at Ewart New Town in 1904. A branch of *Pinus pinea*, bearing cones in three stages of development, taken from one of six specimens discovered by Mr George Bolam near Dunglass, was exhibited by Captain Norman, who emphasised the importance of the "find" by declaring that none of the species had ever been reported North of the Tweed.

The members thereafter dined in the King's
Club Arms Hotel, when the chair was occupied by
Dinner. Mr G. G. Butler, President, and the usual toasts were duly honoured.

Yeavinger Bell, Harehope Fort, and Humbleton Hill.

By FRANCIS LYNN, F.S.A. (Scot.), Galashiels.

(PLATES IX. AND X.)

FROM its prominent position near the termination of the Cheviot range, that great natural dividing line between North and South in the British Isles, this mountain position must always have been an object of importance. While the land in the central valleys to the North of the range was occupied by the early tribes, to whom one constant danger was invasion by strangers landing on the Eastern seaboard, the commanding position of the Bell, and its advantages as overlooking the point of danger, and as a signalling station, would make its possession a matter of the first importance. From it warning of coming danger would flash to the Eildons and beyond. Roman writers describe these central regions as occupied by the Gadeni, or men of the woods, and the Eastern coast as occupied by the Otadeni. When the Roman power was withdrawn, we have the Cymric Britons, partly Romanized, holding together under the kingship of Strathclyde, and the invading Angles and Frisians on the East bearing relatively to each other the same position as formerly was borne by the Gadeni and the Otadeni. Yeavinger Bell and the group of hill-positions round it still remained the key of the position, and the Cymric kingdom clung to it tenaciously. One of the Arthurian battles—the first—was fought on the plain below; and we may conclude that the possession of these positions was the prize contended for, and that here the mighty Arthur struck his first blow, because the possession of the point was vital, and because here the danger from ever increasing sea-borne hordes was felt to be the greatest.

The feature which strikes one as most impressive, after careful examination of this mountain district, is not the strength of the forts, which are many, but the evidence all round the bases of the hills, and in the intervening valleys, of a large population. Remains of pastoral enclosures, homesteads, and hut-circles are met with everywhere; and amongst them are lines of roadway, circling amongst the enclosures, and running down to the plain below, or mounting up to the higher pastures sheltered amongst the spurs of the mighty Cheviot. Antiquarians who have puzzled over the remains of the Catrail, or Herrits Dyke, which are exactly similar works to the roadways seen here in such quantity, would do well to devote a few days to the examination of this neighbourhood. The line of roadway running up the side of the valley behind Akeld, and sending a branch into Harehope Fort, is specially fine. I know of no similar remains in any part of the country showing greater evidence of labour and skill. Where the branch is thrown out towards Harehope, strong breastworks of stone have been placed commanding the traek, which even yet impress one, though many of the stones have been carried off. The ideal in the mind of the early tribesman seems to have been the concentration of a large population living on the spot to be defended. There is here evidence of a population clustered together in a way that is unequalled in any neighbouring district, while the enclosure on the Bell would provide shelter for the women and children in an emergency. This large enclosure measures 440 yards by 200 yards, and has had an enclosing wall of considerable height and thickness. At both the East and West ends there are lunettes, or semi-circular extensions. The late Mr George Tate, Alnwick, gives the enclosed area as 12 acres, but according to Maclauchlan it measures 15 acres. Inside the wall none of the buildings indicate any great stability or importance, except the circular enclosure on the higher or Eastern summit, which, as the signal station, has been specially strengthened. A few of the hut-circles near the main gate on the South side have had walls of stone, but the greater number of the sites are merely horse-shoe shaped platforms, levelled into the surface of the hill. The huts were probably temporary erections, formed with branches

of trees or wattles. The summit of Yeavinging Bell has been usually described as conical, but in reality it is saddle-shaped. The Western summit is covered all over with these hut-platforms. There are several also on the Eastern summit, but obviously a clearance was left there for the beacon fire, or other signal. With reference to these horse-shoe shaped platforms, it may be recalled that a similar formation is common in most of the elevated hill forts. The summit of the Easter Eildon, for example, which is girdled by a very large entrenchment, is similarly covered.

Besides this large enclosure on Yeavinging Bell, there are strong enclosures on most of the neighbouring heights. On Newton West Hill there is a double line of fortifications, with some remains of interior buildings, and on a sort of shelf projecting to the North there is a large extension containing many hut-circles. Then on St. Gregory's Hill, close to Kirknewton village, there is a very fine oval enclosure with two lines of wall, measuring inside 80 yards by 54 yards. This has many hut-circles inside, and has more the look of a permanently occupied town than the others described. The main gate opens at the North-east corner, and from it runs a well-formed hollow way, which a short distance out is joined by another line of similar road, which has come right up the steep front of the hill from the direction of the site now occupied by Kirknewton village. These roads thus united run over to and across the valley formed by the upper part of the burn coming down by Old Yeavinging, and form the line which was there seen by the Club, as will be referred to in the itinerary of their visit, which is subjoined.

Harehope Fort is perhaps the finest specimen of a British fort on the Eastern Cheviots. A drawing of it (Plate IX.) shows that its position is not high, the top of Harehope Hill sheltering it on one side, while on the other sides it is shadowed by higher ground. On the East side it rests on the precipitous edge of a rocky ravine, Monday Cleugh, which runs between it and Homildon Hill. A fine hollow way of the type already described comes up the winding bottom of this Cleugh, and runs straight out into the upper hill pastures; but a branch from it runs into a gate in the South angle of the fort, which has been guarded by two towers thrown

forward where this road enters. The Western or main gate of the fort has a fine avenue-looking entrance. This feeling of front-door approach was well voiced, when it came in view, by one of the members exclaiming, "This way for the carriage people!" But its apparent openness proves its very strength, as the approach lies in the face of three lines of wall, the opening through each being covered by the wall behind. This method of bringing approaches up to forts, so as to expose the party approaching in the open, is not infrequent in the case of early forts. It is sometimes done in a way that might be termed "a trap." The writer knows of several instances where, by going straight forward to the end of the road, one is brought right under the face of the wall where there is no entrance into the fort, the real entrance being got by passing out of the direct roadway some distance back by a side track, which a stranger would be sure to miss, especially when he had the fort in full view before him. The fine line of hollow way coming up from Akeld has already been remarked on. We stated that a branch was thrown out towards Harehope Fort. After diverging a short distance, this branch forks again, the direct line running out to the open in front of the wall, the other curving away for a while, but afterwards turning into the main entrance. In the interior of the fort there are remains of several circular buildings, and opposite each of the entrances inside there have been guard-towers.

The great stone fort on Homildon Hill differs from the others in this group. It has an outer wall of stone girdling the summit of the hill, one side of which rests on the brink of the ravine known as Homilbeugh. The inner wall rests one of its ends on the outer wall at the Eastern side, and from this runs with a spiral line up to the summit of the hill, making rather more than one complete turn round. The line of main entrance to the centre of the fort was round this spiral curve, all the way under command of the wall and its defenders. The method of building followed in the stone enclosures at Yeavinger and Homildon is that most frequent in British forts. A line of broad stones is sunk into the ground surface, forming a sort of curb. This forms the line of the face of the wall. There

is no appearance of the foundation having been cut out level to the thickness of the wall, or even cut into level steps or stages so as to give the stones a level bed. This defect has increased the tendency natural to drystone building to slide downwards. At one part of the central building of Homildon the whole mass of building has shifted outside the line of wall, as laid down by the curb, and the same thing occurs in part of the wall of the Western lunette or extension at Yeavinger Bell.

In a very able article on Yeavinger Bell, contributed to the Proceedings of this Club in 1862, the late Mr George Tate, Alnwick, estimated the population of the surrounding district in the Celtic period as about five hundred; but this, I should think, very much underestimates it, as the clusters of dwellings and enclosures on Swint Law, the Midd-hill, and Worm Law might alone account for that population. It has to be borne in mind that on every shelf or platform round the Bell, remains of dwellings are to be found, extending down to where the operations of modern husbandry cause them to disappear, from which it may be concluded that even a larger number would formerly exist on the lower and richer slopes. They were a pastoral race; and it is not necessary to suppose that they lived entirely on the produce of the ground immediately surrounding their dwellings, the lines of roadway or track, of which there are at least five traceable, affording facilities for grazing their flocks over a wide district of hill and dale. Without insisting on any large permanent population occupying the Hill Forts, I should think five thousand a moderate estimate of the aggregate number from which men-at-arms might be drawn for their defence. The erection of residences in the neighbourhood by some of the earliest of the Saxon kings, as for instance, in the vicinity of Old Yeavinger, the "Adgefrin" of the Venerable Bede, shows that the district remained one of importance, and stood in need of looking after.

In connection with Mr Tate's paper, considerable excavations were carried out by instructions of the Duke of Northumberland, several of the circles inside the great Yeavinger fort being opened. Portions of rings of oak were found in three of them, the diameter of which had been 11

inches, 10 inches, and $7\frac{1}{2}$ inches respectively. The inside surface of these rings was smooth and plain, but they rounded out to a point on the outside, one being polished and of a brown colour. A few pieces of coarse pottery and some rough pieces of flint were also found; and in one of the circles near the top of the Western summit was unearthed the upper stone of a quern, composed of a hard Crystalline Syenite, which Mr Tate could not identify as belonging to the district. Excavations made at the circular enclosure on the Eastern summit showed the enclosing ditch to have been cut into the rock, and to have been originally 5 feet deep, 5 feet wide at the top, and 2 feet wide at the bottom. This ditch is not carried all the way round, a space of 9 feet being left for an entrance. This, with the appearance of the rock surface inside, has given rise to statements about a paved causeway. In the centre of this circle and in the raised summit there was an oval, 13 feet by 10 feet, sunk 15 inches into the rock, which formed the rough floor. This oval was full of small stones, and on the floor lay some charred wood, suggestive of its being the site of the beacon. Several excavations were made in the mounds and enclosures on Worm Law, Swint Law, and White Law, but with rather meagre results. I am afraid some of these had been previously robbed. A very suggestive find was that of Iron Slag in the barrow opened on Worm Law. Mr Tate states that Iron Slag was also found on Harehope Moor. In one of the hut-circles opened on Swint Law was found a fragment of a glass ring of pale green, overlaid with bright blue, with wavy lines of white enamel very artistically worked in. It was only a short fragment, but the original diameter had been 8 inches. In form, however, it resembled the rings of oak already referred to. Mr Tate's designation of these rings as armllets seems hardly to describe the probable use of such large articles, as their diameter would allow of their going over most heads and resting on the shoulders. The description of the glass ring suggests Roman work, and possibly these rings may have belonged to a post-Roman period. The quern found on Yeavinger Bell may probably be assigned to the same era. I have made no reference to Druidical remains on Yeavinger, accounts of

which fill up most of the notices written in the eighteenth century, and the early part of the nineteenth. In an article by Sir David Erskine, appended as a postscript to his "Annals and Antiquities of Dryburgh," he tells us that the Eastern summit was crowned with a cairn of stones ten yards high, the middle hollow six paces from brim to brim, and the stones beneath calcined with fire. This, he supposes, was the Bell, and most probably was used either as a Druidical place of worship or an ancient court of law, when the Northumbrian kings lived at Adgefrin. The sides of the mountain, he continues, are covered with small holdings or priests' houses, and so on. All is subordinated to the idea of a religious use, or a court of law. I can see no trace of Druidical remains at Yeavinger. If there is anywhere in the district a place for the assembly of the people for deliberative purposes, or religious rites, I should place it at a point on the watershed between Torleehouse burn and the burn running down to Old Yeavinger, at a spot where I have marked "Standing stones" on the map. Several stones of considerable size still remain upright in the Moss there, whose situation, though not much exposed, is in full view of many of the large enclosures in the district. This struck me at once as the remains of a stone circle. Should any one regret that by the rude hands of modern experts Yeavinger Bell is being stripped of its ancient glories, let him think of the positions occupied by all the great circles remaining to us, from Stonehenge downwards, and, in my opinion, he will satisfy himself that Yeavinger Bell was not a likely site. In the field to the North of Yeavinger Bell, and between Old and New Yeavinger, there lies a huge Monolith, measuring 9 feet 4 inches in length, and 5 feet 3 inches in breadth at its base. It stood upright till 1890, when it was blown over, and is said to mark the scene of a defeat suffered by invading Scots in 1415. Possibly such an event did occur at that date, but the raising of such huge blocks is the work of an earlier age. Mr Riddle, Yeavinger, suggests raising it again into the upright position, which would be a reverent act. There is also a Monolith on Worm Law, 8 feet in length, but otherwise of moderate dimensions, which is also recumbent.

The building at Old Yeaving, usually described as the palace of the Saxon king, Edwin, does not in any part seem to be of a very great antiquity, nor do the remaining walls appear to belong to one particular age. A portion of them measures 4 feet in thickness; but the large window-opening in it does not indicate its being built at a period when safety was the primary object.

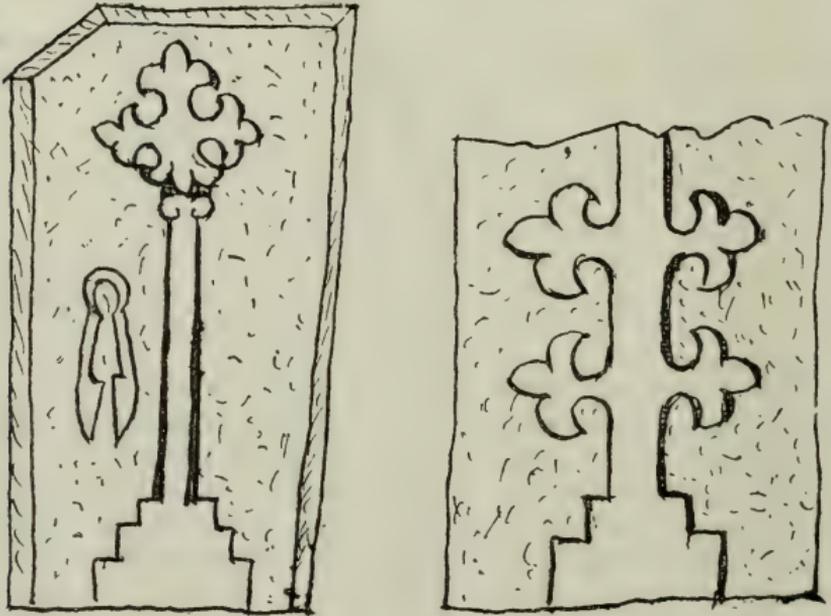
*Itinerary of the Club's Route from Kirknewton and
Yeaving Bell, 26th May 1904.*

Leaving the Railway Station, the members were met by the Rector of Kirknewton, who conducted them to the church and churchyard, pointing out that the healthful character of the district was borne out by several of the stones recording ages of over one hundred years. The church itself is rather a plain building, which has been altered and rebuilt at various times. Claims have been made that a Saxon church stood on the site, but this cannot well be established from anything that remains. The exceeding lowness of the chancel arch, however, suggests great antiquity, and has led some authorities to pronounce it of Saxon origin; but the arch itself has about it a suggestion of the Intermediate period, and examination of the foundations, in 1860, proved it to be resting on Norman foundations, which were part of a Norman chancel somewhat larger, and extending several feet Eastward beyond the present building. The sculpture representing the Adoration of the Magi, which is now built into the wall of the church behind the reading desk, is exceedingly curious, and has been set down as Saxon. There is a vigorous rudeness about the conception and its execution that at once stamps it as belonging to an early period. This sculpture is reported to have been found during alterations made on the church, built into the interior of the wall out of sight, and to have been placed in its present position for preservation.



The Virgin and child are shown seated in a rude trough, from the back of which projects upwards the branch of a tree, which is cut away into a T shape to provide a fixing for the halters of cattle. There is something like a cushion shown placed behind the Virgin. The figures of the mother and child are very stiffly drawn, each having the right hand raised, something being represented in that of the Virgin which cannot readily be made out. The figures of the Magi are exceedingly vigorous. They are entering the sacred presence with briskness and alacrity, and each is holding aloft in his left hand the gift he brings. In order to indicate the weight of the offering each supports the left elbow in the palm of his right hand. The three figures are almost exactly alike, and their dress is of the rudest type, resembling what the Highlander dress was in its early stage, when the Highlander was termed "Red-shank." Here, too, the feet and lower limbs are without covering. The sculpture is curious as giving the artist's conception of the appearance of men of distinction, whose home was in the East. In the vestry a slab of freestone, with a round hole in its centre, was shown as the cover of a stone cist. It would be curious to have such a hole in a cist cover, but enquiry did not

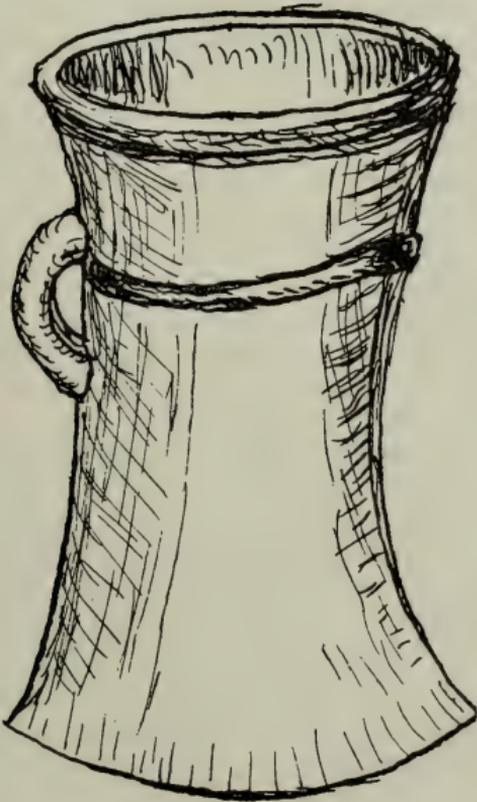
make this certain. It was found in digging a grave outside the church.* In the outer face of the church tower there have been built in for preservation a small sepulchral cross and a fragment, giving the lower part of another, with floreated branches.



Still under the guidance of the Rector, the party left the village and mounted up the side of St. Gregory's Hill, ascending by the footway leading to Torleehouse; but when in sight of that place the party turned to the left, across the meadow, towards the hollow behind Yeavinger Bell.

* A few weeks after the Club's visit another stone was found in digging a grave at the East end of the church, which also was thought to be a cist cover; but, on examination, it proved to be a fragment of a millstone, which had been over $2\frac{1}{2}$ feet in diameter. The piece found was a full quarter of the whole stone, and had been fitted to be driven with a wooden shaft, fixed by wedges in the centre, the motive power being probably the burn which comes down close by.

The Rector informed them that the shepherd at Torleehouse had recently found a bronze celt amongst some stones on the summit of the Easter Torr, but there being no time for the members to call and see it, a drawing is now given. It is a clean made, serviceable looking instrument, and in beautiful preservation.



The map (Plate X.) accompanying this paper shows the route taken by the members on the way to the summit of the Bell. Several very interesting objects were passed on the way, among them the line of an old British road, of Catrail type, on which was noticed a loop or part where the line opens out into two and rejoins after a while. Such loops are characteristic of all these ancient tracks, and may be supposed to have been meant to allow of herds of cattle

passing each other without confusion. Unfortunately, the party passed unnoticed the fine little fort on St. Gregory's Hill, and also a cluster of hut-circles and enclosures in the angle of the burn on their left. The Botanical section of the Club here passed round into the natural forest on the North slope of the Bell, while the others went to the summit, and were well rewarded by the fine view there obtained, commanding as it does the Eastern seaboard and the Northern parts of Northumberland, with Berwickshire and the valley of the Tweed. They also spent some time in the examination of the great stone enclosure circling round the summit of the Hill, the numerous hut-circles and the circular enclosure on the Eastern or highest part of the Hill, which has been the site of the beacon fire. Here the Rev. Morris Piddock, who had acted as guide so far, had to return to Kirknewton, and it was necessary to consider and decide on the line to be followed. After deliberation, it was determined to cross by Swint Law to Harehope Fort, and thence to make a line for Wooler through the Homil-heugh, which lay in full view from the Bell.

In passing across the hollow towards Swint Law a fine line of British road was crossed, and another was seen on Swint Law itself, as well as a large number of mounds and remains of dwellings, most of which, however, had been evidently dug into. A short distance to the South of Swint Law is Tom Tallan's crag, and on the slope beyond that once stood Tom Tallan's cairn. Maclauchlan informs us that this cairn was being removed for wall building when he visited the district in 1858. A labourer told him that a cist had been discovered near its North side, of unhewn stones, 3 feet 6 inches by 1 foot 6 inches by 1 foot deep, but that nothing was found in it. A few bones, however, were found towards the middle of the cairn. The diameter of the whole was about 25 yards. He derives the name from the Celtic, Tomen, a tumulus, Tal, a forehead or promontory, and Llan an enclosure. From Swint Law the party descended into the glen formed by Akeld Burn, on the further side of which they struck another line of old British road, running nearly parallel to the burn. Turning a little to the North they soon had before them the fine fort of

Harehope, which, approached from this side, is a very imposing object, with its three lines of walls rising one above the other. The members were greatly impressed by this fort, the arrangement of its walls, and the advantage taken of the strength of the ground adjacent to Monday Cleugh, causing one to feel in touch with the early builder, whose motive and plan are so transparent.

Leaving Harehope, the path led through Homil-heugh, a deep ravine running behind Homildon Hill, and dividing it from the high ground to the South, at whose base there are several ancient enclosures. At some points on the way a good view was obtained of parts of the great stone fort on Homildon Hill. In walking over the fields towards Wooler, some discussion arose as to the locality of the great, and for Scotland, disastrous fight of Homildon. It is by no means easy to fix on ground that accords with the written description of what took place. Most historians agree that when the Scots on their return from raiding in the direction of Newcastle, laden with plunder and marching carelessly, reached Wooler, they found Hotspur with a force equal to their own drawn up on the heights commanding the pass. Sir Herbert Maxwell in his "House of Douglas," relates that they waited till Douglas' column had bivouacked on low ground called Millfield, and then moved swiftly to attack them. But Douglas was not off his guard, for, on the approach of the English, he withdrew his force to the bare uplands of Homildon, and there awaited attack in the customary "schiltrans" or squares. The Millfield mentioned must refer to ground belonging to a mill close to Wooler, probably Homildon Mill. Nor can it be easily conceived that the Scots then drew off and occupied the summit and terraces of Homildon Hill itself. They would not be allowed time for so lengthened an operation, so that more probably it was the smaller hill between Homildon burn and Homildon village which they occupied, and where they stood like cattle to be slaughtered. From the first the English had the command of the position, holding the higher ground on the interior of the circle by which the Scots were compelled to march on the way to Scotland. They are blamed for not charging sooner, but they would naturally be unwilling to break up and drop the

rich booty they held, especially when they saw their forward march would still be commanded by the English force with its deadly host of bowmen. When they did break up they were at the mercy of the English all the way to the Tweed, thirteen miles off, where it is narrated that five hundred of them perished on entering where the river was not fordable. Locally, the field in front of the low Homildon buildings, where the smithy stands, is known as the Reid Riggs, not that field further North where the battle stone is erected, and which is so named on the Ordnance Map. This agrees with the supposition that the Scots formed on the lesser hill referred to. It was a doleful day for Scotland, but time has healed the wound; and, looking at the ground, we can realise that, in spite of their remarkable bravery, the Scots, being where they were, and as they were, could not have saved themselves from a crushing defeat.

The Liberalis Stone. By REV. ROBERT BORLAND,
Yarrow.

It was in the year 1803 that this famous Stone was first discovered. It was embedded in the soil about a foot from the surface, and was turned up by the plough when breaking in part of the hill on the farm of Whitehope. Standing about half a mile to the West of Yarrow Kirk, and near the roadside, it forms a conspicuous object on the landscape, and at once arrests the attention of the passer-by. It is visited by large numbers every year, and for long the inscription on its surface baffled the skill of the most famous experts. At the time of its discovery Sir Walter Scott was sheriff of Selkirkshire, and was on the eve of taking up his abode in the parish of Yarrow at Ashiestiel on the Tweed. He was greatly interested in the discovery, and along with Mungo Park, John Leyden, and others, he tried to decipher the inscription, but without success. The first edition of his *Minstrelsy* had just been issued from the printing press of James Ballantyne of Kelso, and consequently it contains no notice of this famous monument. But when the second edition appeared, not long after, there was an interesting paragraph added to his notes on the ballad of the "Dowie Dens of Yarrow." It runs thus:—"In ploughing Annan's Treat, a huge monumental stone, with an inscription, was discovered; but being rather scratched than engraved, and the lines being run through each other, it is only possible to read one or two Latin words. It probably records the

event of the combat. The person slain was the male ancestor of the present Lord Napier."

Thus Sir Walter's note. In one or two points his description is not quite accurate. The lines are not run into each other, and the characters, except in one line, are fairly deeply engraved. The difficulty of reading the inscription is largely due to two causes, the roughness and consequent inequality of the surface of the stone, and the fact that the letters are frequently joined, a circumstance which makes decipherment somewhat difficult. Again, the original name of the place was not "Annan's Treat," but "Annan Street"—the old Roman road to Annan, and the stone, as subsequent investigation has shown, has nothing to do with the tragedy of the Dowie Dens. It belongs to a period long anterior to the ballad.

In the immediate neighbourhood of the Stone is the "Catrail," an ancient earthwork, stretching from Peel Fell, on the Cheviots, to Galashiels, a distance of 45 miles. This ditch is from 3 to 4 feet deep, and antiquaries are generally agreed that it constituted the boundary line in ancient times between the Angles of Bernicia and the Britons of Strathclyde. Tradition says that here, on the banks of the Yarrow, towards the close of the 6th century, a great battle was fought, and that the Angles suffered a notable defeat. The King of the Britons at that time was Rydderich Hael, the patron and friend of St. Kentigern, who, some years before, had been driven from the country, and had to seek an asylum in Wales. When Rydderich came to the throne he determined to recall the great missionary, who had planted a church and built a monastery on the banks of the Molendinar, and there laid the foundations of the great city of Glasgow, whose coat of arms still reminds us of this significant fact in its history. The King, to show his regard for St. Kentigern, met him on his way back from Wales at Hoddam in Dumfriesshire, and the parish of "St. Mungo" in that neighbourhood still commemorates the event. In the great battle to which we have referred the King of the Britons lost two sons, and the "Liberalis Stone," as we shall show immediately, was erected to commemorate their death.

It has taken nearly a hundred years to decipher the inscription. For many years the theory which Sir Walter propounded in his *Minstrelsy* was accepted without question, and, indeed, to the present day, in certain circles, it still holds the field. My predecessor, the Rev. James Russell, D.D., the genial and accomplished author of the "*Reminiscences of Yarrow*," was the first to discover its significance. In 1832 he made out the following words:—"Hic memoriae et. . . . Hic Nudi. . . . Hic jacent in tumulo duo filii Liberali." For many years this was practically all that was known about it. But, fortunately, matters were not allowed to rest here. Some twenty-two years ago Principal Rhys, of Jesus College, Oxford, came into the district to try what he could do in the way of making out this puzzling inscription. His success was not immediate. The stone was thickly covered with lichen, and he could make little of the characters. Some time after his visit I had the stone thoroughly cleaned by surrounding it with a heap of stable manure. Again Principal Rhys appeared, and on this second occasion, owing to the improved condition of the stone, he succeeded in making the inscription more or less intelligible. His reading ran thus:—"Hic memoria leti in bello insignissimi princeps Nudi Dumnogeni. Hic jacent in tumulo duo filii Liberali." (Here to the memory of the slain in the battle of the most illustrious prince Nudus of the Dumnogeni. Here in the barrow lie the two sons of Liberalis:) This reading seemed eminently satisfactory, but there was some doubt as to the phrase "leti in bello," as a part of the stone on the right hand corner had been broken off, and part of the inscription had gone with it. When Principal Rhys returned some three years ago I had the stone covered with flour meal, and had it photographed, put on a slide, and thrown upon the screen. A somewhat disconcerting discovery was made. The reading was not "memoria," but "memoriae," the terminal E having been mistaken for the initial L in what was supposed to be "leti." To this extent the inscription is still imperfect, and probably will remain so owing to the loss of the upper right hand corner of the stone. But the meaning is evident, and that is so far satisfactory.

This monument, one of the earliest (if not *the* earliest) Christian monuments in Scotland, was erected by Prince Nudus to the memory of his two sons who here fell in battle. But the question at once suggests itself—Who was “Nudus the Generous?” The answer may be given in a word. In the “Four Ancient Books of Wales” we read of one Dungual Hen, who had a grandson called Nud, also called Hael or Liberal. It would, therefore, seem that the two sons of Liberalis whom the stone commemorates were the sons of Hael, the King of the Strathclyde Britons.



PINUS PINEA at Dunglass, East Lothian.

By COMMANDER NORMAN, R.N.

Read at the Dunglass Meeting, 20th September 1905.

Pinus pinea, the Stone Pine, or Umbrella Pine, a native of Italy and the Mediterranean, is a well-known ingredient in Italian and Sicilian paintings and photographs.

In the neighbourhood of Rome are many fine and interesting specimens, from 60 to 75 feet high, which always attract the attention of visitors. The species was introduced into Britain in the middle of the 16th century, but owing to its tender constitution is only to be met with in favoured situations in the South, and then rarely exceeding and not often attaining 30 feet in height. Adult specimens in

Scotland, and the North or even the Midlands of England, as far as I can discover, are quite unknown, though I have heard of unsuccessful attempts to rear seedlings. The few, too, anywhere that have survived the severe winters that occur occasionally in our climate, even in the South, show but imperfectly the striking characteristics that render the tree so picturesque in Southern Europe.

The discovery, therefore, in 1904, by our late Treasurer, Mr George Bolam, of these six healthy cone-bearing specimens, the highest not far short of 30 feet, at the foot of a railway embankment close to the post road here in Scotland, unsuspected, unnoticed, uncared for during the past half-century, is surely one full of surprise and interest, and a notable addition to the botanical annals of our Club. It is a further example, too, of the observant powers of Mr Bolam, who was such a very valuable member, and whose loss is a very serious one indeed.

With a view to verification a branch with cones was sent to Kew, as, although I had no doubt as to its identity, it seemed, at the same time, in the highest degree improbable that such trees should be flourishing in this locality. Not the least curious feature of the discovery, moreover, is the fact that the late Dr Hardy must have passed and re-passed them a hundred times during his long life in this his native parish; but their nature must have escaped his observant eye to the last.

You may naturally enquire whether I have been able to trace their history. I have not, with much accuracy. There is no record of them at Dunglass, but Mr Malcolm, the "oldest residenter" at Bilsdean, informed me that not long after the opening of the Railway in 1846, he remembered the embankment for a considerable distance being planted with various sorts of Conifers by an Edinburgh firm. I have little doubt that these Stone Pines were planted at the same time experimentally, and in course of time were forgotten. They are considerably cramped, crooked, and misshapen, no doubt, and with one or two partial exceptions do not show the characteristic bare stem topped by its umbrella-shaped dome of foliage. The wonder is, however,

that they are alive at all, and still more that they bear cones abundantly. The few cones to be seen on the higher branches do not represent the whole crop, as I am informed that the boys of the locality make an annual raid and carry off all that they can get hold of—and perhaps not boys only. These cones ought to be respected, as probably they are the only specimens to be found North of the Thames: certainly they are unique in Scotland.

Now, how are we to account for these tender trees having survived the rigours of many severe East Lothian winters, and the severe gales, such as the Tay Bridge and the Eye-mouth Disaster, gales which wrought such terrible havoc? No doubt the situation, sheltered to the North and East by the Embankment, has saved and nurtured them. The experiment seems to suggest that more trees of the sort might be successfully reared in similar situations. At any rate such might probably grow very well in the mild climate of the West of Scotland, but I never saw any there. Perhaps it is too damp. I inserted an appeal to proprietors, gardeners and foresters in *The Scotsman* of the 16th October 1904, asking them to communicate with me if they were aware of any Stone Pines in their policies or neighbourhood, but I got no answers.

The finest example of a Stone Pine in Britain grows at Mount Edgumbe, Plymouth, the beautiful and well-known seat of the Earl of Mount Edgumbe. At the present time its height is 54 feet, girth at 3 feet from the ground 9 feet 6 inches, and spread 48 feet. No cones have been noticed. There are two other fine umbrella-shaped trees near the East front of the House, the largest being about 30 feet high. At 2 feet from the ground each stem bifurcates, the girth of each branch being 6 feet, and the spread of foliage 45 feet. These trees bear cones which come to maturity. The first mentioned of the above named specimens is remarkable, as I have explained that *Pinus pinea* rarely exceeds 30 feet in our country. The foregoing particulars have been kindly sent to me from Mount Edgumbe.

I must notice a few characteristics of *Pinus pinea*. First, like the Scotch Pine, it belongs to the section having

two leaves in a sheath, the other two sections having three and five respectively. When occasion arises to identify a Pine, the first thing to find out is, how many leaves it has in a sheath—though here a little caution is necessary, as sometimes one or more leaves of three and five leaved groups are wanting. Next, the cones of a Stone Pine take three years to come to maturity, after which they are persistent for a long time. Last year from these trees I got a branchlet exhibiting first, second, and third year's cones. The mature cones are very solid and heavy, and broader in proportion to their length than any other sorts. They are composed of hard, stout, oblong-cuneate, ligneous scales, the apophysis, or swollen apex of each scale having a depression or hollow in which is a small umbo or projection. The cones of *Pinus pinaster* at Dunglass East Lodge gate are longer, more oblique and produced, not singly as in *pinea*, but in narrower, stellate clusters round the base of the shoots of the current year—hence the name Pinaster, signifying Pine-aster or star. Moreover the terminal foliage of Pinaster is “interrupted,” showing more or less a bare bit of branch between each year's leaf clusters, but in *pinea* the foliage is “continuous.”

The seeds of the Stone Pine are large, enclosed in a hard bony shell—hence the name. They are edible, and much used for food by the peasantry throughout the region where the tree abounds. The specific name *pinea* was doubtless selected by Linneus to denote the high estimation in which the tree is held—*Pinus pinea* signifying pine-of-pines.

It remains, in conclusion, to notice a peculiarity in this tree, not observed in any other. For several years after the seedling stage is passed, and branches with a dull foliage produced, there appear among them slender elongated branches with protomorphic leaves only; that is, leaves of the early formed or seedling type, which are solitary, not in pairs, only half as long as the adult leaves, and of a different shape. As the young tree advances in age, both sorts of leaves are often intermixed, but eventually the protomorphic ones disappear entirely.

For part of the information contained in this Paper I am indebted to Mr Adolphus Kent, author of "Veitch's Manual of the Coniferæ," 2nd Edition, the standard work on the subject.

NOTE.—There is another tree, *Sciadopitys verticillata*, the Umbrella Pine of Japan, which was formerly classed among Yews, but now among the Cryptomerias, Sequoias, and Deciduous Cypresses, which must not be mistaken for *Pinus pinea*.

This Japan tree, often to be seen in its infantile stage in this country, is so called because the phylloid shoots which represent leaves spread out like the ribs of an umbrella.

Etymology of the Berwick word "Dover."

By COMMANDER NORMAN, R.N., Berwick.

AMONG words in our district whose etymology is uncertain, such as Berwick and Lindisfarne, has hitherto been included "Dover," the somewhat perplexing name of the only sauce that is admissible with boiled salmon in the old Border town. Members of our Club have had many an opportunity of testing the same, and are well aware that it consists simply of the water in which the fish has been boiled, but they would not be understood if they asked for it outside Berwick circles.

Not being able to accept, among other theories, that one advanced by a fellow-guest at a Sheriff's "Kettle," that the word is simply an abbreviation of "Do-over"; and having heard that there was a Celtic word with a somewhat similar sound, I wrote to Professor John Rhys, Professor of Celtic in the University of Oxford, on the subject. His letter, as follows, will be read with interest:—

"It strikes me that you are quite likely to be correct in your surmise as to the Celtic origin of the word *dover* at Berwick. The Welsh word for 'water' is colloquially *dwr* (pronounced *door*, with *oo* as in 'cool' or 'food'); but in the Celtic of the 6th or 7th century, to which one would have probably to go back, it would have been more nearly *dovr* or *dóvör*, perhaps more nearly *dóvür*, which comes apparently quite near to your pronunciation of the word for *salmon water* used as salmon sauce."

**GALASHIELS AND DISTRICT:—A Guide
to the existing Fauna.**

THROUGH the kind help of remanent members of the South of Scotland Entomological and Natural History Society, the following lists of insects collected by them have been placed at the service of the Club, and after revision by Mr William Shaw, Galashiels, are herewith published along with interesting local comments, with a view to preserve so valuable a record of the Butterflies, Moths, and Beetles which have been found in the district. In submitting the lists, Mr Shaw pays the following tribute to his associates, for which we gladly find space. "These results cannot be said to be the work of any single member, and it would be invidious to single out the names of individuals to whom credit might be given, for while our fellow-members followed different branches of Natural History, they at the same time remembered those of their number who specialised in other directions, and made it a point to secure for them any specimens they might come across. Doubtless more is due to some than to others, but we feel that all are more or less deserving, seeing each assisted the other as much as he could. In this way have been obtained a collection of insects which any such Society might be proud to possess, and what is of far more importance, an extended knowledge of the beauties and wonders of Nature, so widely distributed on our hills, and in our woods, fields, streams, and gardens."

LIST OF BUTTERFLIES.

PIERIS BRASSICÆ, the large white, and P. RAPÆ, the small white, are two of our commonest native butterflies. They are both double brooded, and the perfect insect appears from May to September. The caterpillar feeds on the common Cabbage, and their destructive ravages may be seen in any kitchen garden.

PIERIS NAPI, the green veined white, is another common district species, and frequents river sides and fields, but is seldom seen in gardens. The larvæ also feed on different species of *Brassicæ*.

EUCHLOE CARDAMINES, the orange tip, is of very rare occurrence in the district, only one specimen being taken at Newstead several years ago. Several others have been seen, but managed to evade capture. It is a strikingly handsome butterfly, and in England, where it abounds, is found in all situations—in the green lane or open pathway, in the wood, the sunny meadow, or cultivated gardens. The larvæ feed on *Cardamine impatiens*.

ARGYNNIS AGLAIA, dark green fritillary, is another very scarce insect here, two or three having been taken in the meadow above the Nutwood, up Ellwyn Water. It occurs not uncommonly in many other districts in Scotland, on some of the highest hills in Ross-shire and in the Isle of Arran. The larvæ feed on Dog-violets.

VANESSA URTICÆ, the small tortoise-shell or common witchie, is one of our commonest butterflies, and abounds in the district. There are two broods each season, and the larvæ are Nettle-feeders.

VANESSA ATALANTA, the red admiral, is one of the richest coloured of our native butterflies, and is widely distributed over the whole country. Although seldom seen in the town, it is in some seasons very abundant in its immediate vicinity. The larvæ are also Nettle-feeders.

VANESSA CARDUI, the painted lady, is one of the most universally distributed species of butterflies in the world, being found in almost every quarter of the globe. It

is, however, very uncertain in its appearance, sometimes disappearing from the district for years. It is occasionally taken on Gala Hill and in the Ellwyn valley. The caterpillar feeds on Thistles.

EREBIA BLANDINA, the Scotch Argus, though rare in some parts of the country, is of common occurrence in this district, being abundant in August on Gala Hill, Langlee Hill, and Gattonside Moor.

SATYRUS SEMELE, the grayling or rock-eyed underwing, is rather a rare insect here, only a few specimens having been taken. It frequents railway embankments, and is fond of resting on barren stony spots.

EPIREPHILE JANIRA, the meadow brown, is a common country insect, and abounds in the meadows near the Ellwyn or Caddon.

EPIREPHILE HYPERANTHUS, the ringlet, is also common here, and resembles the preceding in its habits.

CÆNONYMPHA DAVUS, the large heath or marsh ringlet, though common in many parts of Scotland, is a rare insect here, only occurring in Threepwood Moss near Lauder.

CÆNONYMPHA PAMPHILUS, the small heath butterfly, is another very common insect, and occurs in profusion in all the surrounding district. The larvæ of this butterfly and of the preceding five are Grass-feeders.

POLYOMMATUS PHLÆAS, the small copper, is of frequent occurrence in our neighbourhood, and, although a small insect, is an exceedingly elegant object on the wing. There are several broods in the year, and the larvæ feed on the common Sorrel.

POLYOMMATUS ICARUS, the common blue, is one of the commonest of our native species, and, although a small butterfly, is one of the most pugnacious of its race, and when animated will not suffer any of its tribe to approach the flower on which it rests with impunity. It will assail and drive away the red admiral, although six times its size. The larvæ feed on wild Strawberry.

POLYOMMATUS ARTAXERXES, the Scotch brown Argus, is a much rarer butterfly than the last one, although in some seasons it is fairly common here. The caterpillar feeds on the wild Strawberry and the Rock-rose.

HESPERIA SYLVANUS, the large skipper, is one of the rarest of our butterflies, and there are few districts in Scotland from which its capture is recorded. One was taken up the Ellwyn many years ago, and this is the only recorded instance of its capture here.

LYCENA ALSUS, the little blue butterfly, once taken at Ellwyn.

LIST OF MOTHS.

Sphinxés and Bombyces.

ACHERONTIA ATROPOS, the death's-head moth, from the figure of a skull on the top of the thorax. It is a very scarce moth here, only a few specimens having been taken in a good number of years. It measures five inches across the wings, and is a very pretty insect. Although at no place common, it is very generally distributed throughout Europe, and is one of its largest moths. The caterpillar, which is an equally pretty object, feeds principally on the leaves of the Potato.

SPHINX CONVULVULI, the unicorn hawk-moth, is slightly less than the preceding moth, and is also rather rare in the district. It is another fine insect, and makes its appearance in July. It frequents gardens, and may be seen occasionally hovering over beds of Phlox or Petunia. It is sometimes fairly abundant in certain districts, and the larvæ feed on the lesser Convolvus or Bindweed.

SMERINTHUS POPULI, the poplar hawk-moth, is a common insect in this locality, and measures nearly four inches from tip to tip of its wings. The perfect insect appears in June, and the larvæ, which feed on different species of Poplar, are to be got in July and August.

DEILEPHILA GALII, the scarce spotted or madder hawk-moth, is a very finely marked insect, and measures nearly three inches across the wings. It is of rare occurrence here; only two instances are recorded of its capture, and, singularly enough, both on the same night in July 1893. The caterpillar feeds on the yellow Bedstraw.

MACROGLOSSA STELLATARUM, the humming-bird hawk-moth, measures two inches in extent, and its occurrence is widely distributed over the whole country. It is a day-flying moth, and may be seen hovering over the blooms of Wall-flower, Jasmine, or Lilacs, and darting its proboscis into the flower in search of food. It is somewhat uncertain in its appearance here, but has been noticed plentiful, over fifty specimens being captured in one year, on dates ranging from May to late in October. The larvæ feed on the white heath Bedstraw.

SEZIA TIPULIFORMIS, the currant clearwing. This small insect has only once been captured here; the caterpillar feeds on the pith of the Currant tree.

SEZIA APIFORMIS, the hornet sphinx, is another rare insect, only one specimen being taken at Gordon Moss. The larvæ feed on the wood of the Poplar.

Bombyces.

NUDARIA MUNDANA, the muslin, a small moth, is common here, the larva feeding on Lichens.

EUCHELIA JACOBÆÆ, the cinnabar moth, scarlet coloured, is common near the coast, but several have been taken in the Ellwyn valley. The larvæ, which are generally found in companies, feed on the Ragwort, which may be seen eaten quite bare by them.

NEMEOPHILA RUSSULA, the clouded buff, is rather rare here, but has been taken on the Yair hill, and near the Luggate. The caterpillars feed on the Plantain.

NEMEOPHILA PLANTAGINIS, the wood tiger, a pretty little insect, is common on the railway embankment near Torwoodlee, where the larvæ, which feed on the Plantain and other low plants, may be taken in the spring.

ARCTIA CAIA, the common or garden tiger, is the largest and commonest of the family, and like the rest is a very handsome insect. It sometimes varies much in colour, and remarkable prices have been paid by collectors for variations from the common type. The larvæ are general feeders, little coming amiss to them.

ARCTIA FULIGINOSA, the ruby tiger, a small ruby coloured moth, is common over the whole district, and the larvæ are also general feeders. This fact is puzzling to Naturalists in this way. Among the preparations used by Entomologists for killing their specimens is one of bruised laurel leaves, their poisonous nature being well enough known. The ruby tiger caterpillar feeds and thrives on the plant, and the query is, how does it neutralize the effect of the pyrogallic acid so fatal to it in its perfect state?

ARCTIA MENDICA, the muslin moth, is very rare in the district. The larva feeds on almost all low plants.

ARCTIA MENTHASTRI, the white ermine, is very common here some seasons, and the caterpillar, like the preceding one, is a general feeder.

HEPIALUS HUMULI, the ghost swift; *HEPIALUS SYLVANUS*, the wood swift; *HEPIALUS VELLEDA*, the northern swift; *HEPIALUS LUPULINUS*, the common swift—are all fairly common here, and make their appearance in June. The moths of this genus begin to fly early in the evening, occasionally with great swiftness and hence their common name. The caterpillars feed on a variety of plant roots.

DASYCHIRA FASCELINA, the dark tussock, is common on all the surrounding hills. The larvæ are rather beautiful objects, and feed on Heather.

ERIOGASTER LANESTRIS, the small eggar, is a rare insect here, got occasionally on the Yair hill, the larva feeding on Heather and Hawthorn.

PŒCILOCAMPA POPULI, the December moth, is common here, and the larva feeds on Poplar.

BOMBYX RUBI, the fox moth, is a large fine day-flying moth, and sometimes very plentiful in the district. The larva is large and beautiful, and feeds on many low plants, but, being hibernaters, these moths are difficult to rear.

TRICHIURA CRATÆGI, the pale oak eggar, is of frequent occurrence on the Yair hills; the larva feeds on Heather.

BOMBYX QUERCUS, the oak eggar, is a large fine moth, measuring nearly three inches across the wings, and is common on the hills in the district. The larva, which feeds on either Heather or Hawthorn, is covered with hairs of a very irritant character, which sting the hands and spread a disagreeable itch over every part touched by them.

SATURNIA CARPINI, the emperor moth, a noble-looking insect, is also common. The male is a finely coloured insect, and flies in the sunshine with great swiftness. The caterpillar in its later stages is handsome and conspicuous, and feeds on Heather and Hawthorn.

DICRANURA VINULA, the puss moth, is fairly common here. The larva of this genus feeds on the Poplar or Sallow. The head and front segments closely resemble the head of a cat, and from this they receive their distinctive name. They are also provided with a singular protective apparatus—double telescopic tails, from which they can eject minute drops of pyric acid when attacked by birds or other natural foes.

DICRANURA FURCULA, the sawfly kitten, is occasionally taken here. It resembles the preceding moth in its habits and food plants, but is much less.

NOTODONTA CAMELINA, the coxcomb prominent; *NOTODONTA DICRÆA*, the swallow prominent; *NOTODONTA DROMEDARIUS*, the iron prominent; *NOTODONTA ZICZAC*, the pebble prominent; are all more or less common here, and the food plants of the larva are Birch, Poplar, or Sallow. *NOTODONTA DICTEOIDES*, the small swallow prominent, (rare), and *NOTODONTA CARMELITA*, the scarce prominent, (very rare).

NOTODONTA CHAONIA, lunar marbled brown, is sometimes taken here, and the larva is an Oak-feeder.

PHALERA BUCEPHALA, the buff tip, is very common in some localities. It is rather a fine moth, and the larva feeds on Sallow or Poplar.

CLOSTERA RECLUSA, small chocolate tip, is a rare moth here, only got at Threepwood moss, and its larva feeds on Sallow.

THYATIRA BATIS, the peach blossom, is an exceedingly pretty moth, and is taken on Gala hill. The caterpillar feeds on Brambles.

HYLOPHILA PRASINANA, green silver lines, and *CILIX SPINULA*, Chinese character, are also of frequent occurrence.

NOCTUÆ.

There are some three hundred and twenty species of Noctuæ peculiar to the British Isles, and of these the following one hundred and nineteen have been taken in this district. Owing to their number, it will be impossible to describe them in detail, space permitting only of a statement of their Latin and English names, and whether they are common or otherwise.

BRYOPHILA PERLA, marbled beauty, common.

DEMOS CORYLI, nut tree tussock, very scarce.

ACRONYCTA PSI, grey dagger, common.

ACRONYCTA LIGUSTRI, coronet, fairly common.

ACRONYCTA RUMICIS, knot grass, common.

ACRONYCTA MENYANTHIDIS, light knot grass, common.

DILOBA CÆRULEOCEPHALA, figure of eight moth, common.

LEUCANIA CONIGERA, brown line, bright eye, common.

LEUCANIA LITHARGYRIA, the clay, common.

LEUCANIA COMMA, shoulder striped wainscot; *LEUCANIA IMPURA*, smoky wainscot; *LEUCANIA PALLENS*, common wainscot; *TAPINOSTOLA FULVA*, the small wainscot, are all fairly common.

HYDRECEIA NICTITANS, ear moth, common.

- HYDRGECIA MICACEA, rosy rustic, scarce.
XYLOPHASIA RUREA, the brindle, common.
XYLOPHASIA LITHOXYLEA, light arch, common.
XYLOPHASIA MONOGLYPHA, and its variety, XYLOPHASIA POLYODON, are both common.
NEURONIA POPULARIS, feathered gothic, scarce.
CHARCEAS GRAMINIS, the antler, common.
LUPERINA TESTACEA, flounced rustic, scarce.
LUPERINA CESPITIS, hedge rustic, scarce.
MAMESTRA FURVA, the confused, very scarce.
MAMESTRA BRASSICÆ, cabbage moth, very common.
APAMEA BASILINEA, shoulder knot, scarce.
APAMEA GEMINA, dusty brocade, common.
APAMEA OCULEA, common rustic, common.
MIANA STRIGILIS, marbled minor; MIANA FASCIUNCULA, middle barred minor; MIANA LITEROSA, rosy minor; MIANA ARCUOSA, small dotted buff; MIANA HAWORTHII, Haworth's minor, are all more or less common.
STILBIA ANOMALA, the anomalous, scarce.
CARADRINA QUADRIPUNCTATA, mottled willow, scarce.
RUSINA TENEBROSA, brown rustic, common.
AGROTIS SUFFUSA, dark sword grass, common.
AGROTIS SAUCIA, pearly underwing, scarce.
AGROTIS SEGETUM, turnip moth, scarce.
AGROTIS EXCLAMATIONIS, heart and dart, common.
AGROTIS NIGRICANS, garden dart, common.
AGROTIS STRIGULA, true lovers' knot, common.
NOCTUA GLAREOSA, autumnal rustic, very scarce.
NOCTUA DEPUNCTA, plain clay, scarce.
NOCTUA AUGUR, double dart, common.
NOCTUA PLECTA, flame shoulder, common.
NOCTUA C. NIGRUM, lettered gothic, very common.
NOCTUA TRIANGULUM, double spotted clay, common.
NOCTUA RRUNNEA, purple clay, common.
NOCTUA FESTIVA, ingrailed clay, common.
NOCTUA RUBI, small square foot, scarce.
NOCTUA BAJA, dotted clay, very common.
NOCTUA NEGLECTA, grey rustic, very scarce.
NOCTUA XANTHOGRAHA, square spot, rustic, common.
NOCTUA DAHLII, rare.

- TRIPHENA IANTHINA, small broad border, common.
 TRIPHENA FIMBRIA, broad border, yellow, common.
 TRIPHENA SUBSEQUA, lunar yellow underwing, scarce.
 TRIPHENA ORBONA, lesser yellow underwing, common.
 TRIPHENA PRONUBA, large yellow underwing, common.
 AMPHIPYRA TROGOPOGONIS, the mouse, scarce.
 MANIA TYPICA, the gothic, scarce.
 MANIA MAURA, the old lady, scarce.
 PANOLIS PINIPERDA, pine beauty, scarce.
 PACHNOBIA RUBRICOSSA, red chestnut, very common.
 TÆNIOCAMPA GOTHICA, Hebrew character, common.
 TÆNIOCAMPA INSTABILIS, clouded drab, very common.
 TÆNIOCAMPA STABILIS, common quaker, very common.
 TÆNIOCAMPA GRACILIS, powdered quaker, common.
 TÆNIOCAMPA CRUDA, small quaker, scarce; var. *Haggartii*.*

* *Tæniocampa pulverulenta* (*cruda*) *ab. Haggartii* *n. ab.*

"The form noticed by Mr Haggart is quite new to me, and much darker than anything I have previously seen in this species. The following is a description of this form made from one of the examples which Mr Haggart has kindly given me, and which I name *Haggartii*.

"Anterior wings uniform dark brown; the costal edge narrowly yellowish, the outline of the reniform, and orbicular, and the hind marginal line yellowish, inclining to orange; the cilia distinctly divided into a dark basal area and a rather paler outer area by a longitudinal line. Posterior wings very dark grey, the basal area perhaps a little paler than the outer area; the cilia, grey intersected by a longitudinal line separating the inner and darker from the outer and paler part. Thorax almost of the tint of the forewings, but with a number of grey scales intermixed; the abdomen of the same dark grey colour as the hindwings. One example, March 1901; three examples, March 27th 1902. All four specimens on same Sallow bush.

"It is to be hoped that Mr Haggart will breed this form when opportunity offers. I was struck, on first looking at the specimen, by its superficial similarity in some respects to one of the melanic forms of *Cleoceris viminalis*, with which Mr J. Harrison supplied our cabinets some years ago."—J. W. Tutt, *The Entomologist's Record*, July 1st, 1902.

- ORTHOSIA SUSPECTA, the suspected, scarce.
ORTHOSIA LOTA, red-line quaker, common.
ORTHOSIA MACILENTA, yellow-line quaker, scarce.
ANCHOCELIS LUNOSA, lunar underwing, scarce.
ANCHOCELIS LITURA, brown-spot pinion, common.
CERASTIS VACCINII, the chestnut, very common.
SCOPELOSOMA SATELLITIA, the satellite, common.
XANTHIA CITRAGO, orange sallow, fairly common.
XANTHIA CERAGO, the sallow, common.
XANTHIA SILAGO, pink-barred sallow, common.
XANTHIA FERRUGINEA, the brick, very common.
CIRRHCEDIA XERAMPELINA, centre-barred sallow, scarce.
TETHEA SUBTUSA, the olive, scarce.
CALYMNIA TRAPEZINA, the dun bar, common.
DIANTHÆCIA CAPSINGCOLA, lychnis, scarce.
DIANTHÆCIA CUCUBALI, campion, scarce.
HECATERA SERENA, broad-barred white, scarce.
POLIA CHI, the grey chi, common.
DASYPOLIA TEMPLI, brindled ochre, very scarce.
EPUNDA LUTULENTA, deep brown dart, very rare.
EPUNDA NIGRA, black rustic, scarce.
MISELIA OXYCANTHÆ, green brindle crescent, scarce.
AGRIOPIS APRILINA, marvel-du-jour, common.
PHLOGOPHORA METICULOSA, angle shades, common.
APLECTA HERBIDA, green arches, scarce.
HADENA PORPHYREA, scarce beautiful brocade, scarce.
HADENA ADUSTA, dark brocade, scarce.
HADENA PROTEA, brindled green, common.
HADENA GLAUCA, glaucous shears, very scarce.
HADENA DENTINA, the shears, scarce.
HADENA OLERACEA, bright line-brown eye, common.
HADENA PISI, brown moth, common.
HADENA THALASSINA, pale shouldered brocade, scarce.
CALOCAMPA VETUSTA, red sword grass, scarce.
CALOCAMPA EXOLETA, sword grass, scarce.
CUCULLIA UMBRATICA, the shark, scarce.
GONOPTERA LIBATRIX, the herald, scarce.
ABROSTOLA URTICÆ, light spectacle, scarce.
PLUSIA CHRYSITIS, burnished brass, scarce.
PLUSIA BRACTEA, gold spangle, very scarce.

- PLUSIA IOTA, plain golden Y, common.
 PLUSIA PULCHRINA, beautiful golden Y, scarce.
 PLUSIA GAMMA, silver Y, very common.
 PLUSIA INTERROGATIONIS, scarce silver Y, scarce.
 ANARTA MYRTILLA, beautiful yellow underwing, scarce.
 HELIODES ARBUTI, small yellow underwing, scarce.
 PHYTOMETRA VIRIDARIA, small purple bar, scarce.
 EUCLIDIA MI, mother shipton, common.
 EUCLIDIA GLYPHICA, burnet noctua, common.

GEOMETERS.

- RUMIA LUTEOLATA, brimstone moth, common.
 METROCAMPA MARGARITARA, light emerald, common.
 ELLOPIA PROSAPIARIA, the barred red, and its variety, FASCIARIA,
 are fairly common.
 SELENIA ILLUNARIA, the early thorn, and its variety, JULIARIA,
 are taken, but scarce.
 SELENIA LUNARIA, the lunar thorn, scarce.
 ODONTOPERA BIDENTATA, scalloped hazel, scarce.
 CROCALLIS ELINGUARIA, scalloped oak, scarce.
 HIMERA PENNARIA, feathered thorn, scarce.
 PHIGALIA PILOSARIA, pale brindled beauty, common.
 AMPHIDASIS BETULARIA, peppered moth, scarce.
 CLEORA LICHENARIA, Brussels lace, scarce.
 BOARMIA REPANDATA, mottled beauty, common.
 GEOMETRA PAPILIONARIA, large emerald, very scarce.
 VENUSIA CAMBRICA, Welsh wave, scarce.
 ACIDALIA AVERSATA, the ribond wave, and its variety, SPOLIATA,
 are both common.
 CABERA PUSARIA, common white wave, common.
 CABERA EXANTHEMATA, common wave, common.
 MACARIA LITURATA, tawny barred angle, common.
 HALIA WAVARIA, the V moth, very common.
 SCODONIA BELGIARIA, grey scalloped bar, scarce.
 EMATURGA ATOMARIA, common heath, very common.
 BUPALUS PINIARIA, bordered white, very common.
 ABRAXAS GROSSULARIATA, currant moth, common.
 HYBERNIA RUPICAPRARIA, early moth, common.

- HYBERNIA LEUCOPHŒARIA, spring usher, common.
 HYBERNIA AURANTIARIA, scarce umber, common.
 HYBERNIA PROGEMMARIA, dotted border, scarce.
 HYBERNIA DEFOLIARIA, mottled umber, scarce.
 ANISOPTERYX ÆSCULARIA, March moth, scarce.
 CHEIMATOBIA BRUMATA, winter moth, scarce.
 CHEIMATOBIA BOREATA, northern winter moth, scarce.
 OPORABIA DILUTATA, November moth, scarce.
 OPORABIA AUTUMNARIA, scarce autumnal, scarce.
 LARENTIA DIDYMATA, twin spot carpet, common.
 LARENTIA MULTISTRIGARIA, mottled grey, common.
 LARENTIA CÆSIATA, grey mountain carpet, common.
 LARENTIA OLIVATA, beach green carpet, common.
 LARENTIA VIRIDARIA, green carpet, common.
 EMMELESIA ALCHEMILLATA, small rivulet, common.
 EMMELESIA DECOLORATA, sandy carpet, common.
 EMMELESIA UNIFASCIATA, Haworth's carpet, very rare.
 EMMELESIA ERICETATA, heath rivulet, common.
 EUPITHECIA PULCHELLATA, foxglove pug, scarce.
 EUPITHECIA SATYRATA, satyr pug, scarce.
 EUPITHECIA NANATA, narrow winged pug, common.
 EUPITHECIA VULGATA, common pug, common.
 EUPITHECIA ASSIMILATA, currant pug, scarce.
 THERA JUNIPERATA, juniper carpet, common.
 THERA VARIATA, shaded broad bar, common.
 THERA FIRMATA, pine carpet, common.
 HYPSPETES TRIFASCIATA, May high flyer, common.
 HYPSPETES SORDIDATA, July high flyer, common.
 MELANIPPE TRISTATA, small argent and sable, scarce.
 MELANIPPE RIVATA, wood carpet, common.
 MELANIPPE SUBTRISTATA, common carpet, and the variety,
 BIRIVIATA, are both common.
 MELANIPPE MONTANATA, silver ground carpet, common.
 MELANIPPE FLUCTUATA, garden carpet, common.
 ANTICLEA BADIATA, shoulder stripe, scarce.
 ANTICLEA DERIVATA, streamer, not common.
 COREMIA MUNITATA, red carpet, common.
 COREMIA FERRUGATA, red twin spot carpet, common.
 COREMIA PROPUGNATA, rare.
 CAMPTOGRAMMA BILINEATA, small shell, common.

- SCOTOSIA DUBITATA, tissue, very rare. W.S.
 CIDARIA SITERATA, red green carpet, scarce.
 CIDARIA MIATA, autumnal green carpet, common.
 CIDARIA CORYLATA, broken barred carpet, scarce.
 CIDARIA RUSSATA, common marbled carpet, common.
 CIDARIA IMMANATA, marbled carpet, common.
 CIDARIA SUFFUMATA, water carpet, and its variety, PIECATA,
 are both common.
 CIDARIA SILACEATA, small phoenix, common.
 CIDARIA TESTATA, chevron, scarce.
 CIDARIA POPULATA, northern spinach, scarce.
 CIDARIA FULVATA, barred yellow, common.
 CIDARIA DOTATA, barred straw, common.
 EUBOLIA MENSURARIA, small mallow, common.
 EUBOLIA PLUMBARIA, the belle, scarce.
 ANAITIS PLAGIATA, treble bar, common.
 CHESIAS SPORTIATA, the streak, common.
 TANAGRA CHEROPHYLLATA, the sweep, common.

This closes the list of Geometers; and of eighty-two British Deltoides and Pyralides, the following five have been taken here:—

- HYPENA PROBOSCIDALIS, large snout, common.
 PYRALIS FARINALIS, meal moth, common.
 AGLOSSA PINGUINALIS, the tabby, scarce.
 HERBULA CESPITALIS, dingy purple, common.
 HYDROCAMPA NYMPHŒATA, brown china mark, common.

General Remarks. By Mr William Shaw, Galashiels.

If we compare the Butterflies found in this neighbourhood with those of the County of Berwick, we find some occurring that are not found in Berwickshire, as for example the Scotch Argus (*E. Blandina*); but while here there is only one species of Fritillary, in Berwickshire there are five species. The absence of the Wood Argus (*S. Egeria*) is a curious thing, and we can only think it must have been overlooked by collectors. And while there were taken in Berwickshire one season eight Camberwell Beauties and another season fifty of the Clouded Yellow (*C. Edusa*), there is no record of either of these Butterflies having been noticed here. Not so, however, with the Moths, for in the "Humming-Bird Hawk-Moth" year, the insect was nowhere more common than at Galashiels. There are, however, a considerable number of insects in Berwickshire—"coast insects"—that we could not expect here. A good example of these will be found in the *Agrotis* genus of which fifteen species are found in Berwickshire, and only six species here. There does not seem to have been taken any of the doubtful species that have been caught in Berwickshire, such as *C. Celerio*, *C. nupta*, *C. Fraxini*, and the Scarce Bordered Straw (*H. armiger*); but there are many good and rare insects, as *N. Carmelita*, *C. Propugnata*, *X. Citrigo*, and *S. Dubitata*, besides others, the most interesting feature being the tendency to melanism. Of such darker forms there are many fine examples in the district, the variety of the Small Quaker (*T. Cruda*) being a most interesting one. A Member of the Club remarked that "It was the sooty food (bitter pills) the caterpillars were forced to eat, that made the insect so black."

List of Coleoptera captured in Galashiels and District by Mr J. M. Whitehead and others, arranged according to Sharp's Catalogue of British Coleoptera, 2nd Edition, March 1883.

1. CICINDELA CAMPESTRIS, local; Thornilee and Peel Burn.
8. NOTIOPHILUS BIGUTTATUS, common.
13. ELAPHRUS CUPREUS, fairly common, but local; Langlee Mains pond, Water-works, &c.
17. CYCHRUS ROSTRATUS, met with now and again all over, but scarce.
19. CARABUS NITENS, very rare; reported capture by Mr J. Clapperton, Elibank and Buckholm Hills.
21. CARABUS GRANULATUS, very rare; reported capture by Sir Thomas Carmichael, Bart.
23. CARABUS ARVENSIS, very rare; I took a male on very top of Lea-pen.
25. CARABUS NEMORALIS, fairly common all over.
24. CARABUS CATENULATUS, fairly common in Fir woods at Caddonfoot.
27. CARABUS VIOLACEUS, do. do.
32. NEBRIA BREVICOLLIS, one of the commonest beetles here.
33. NEBRIA GYLLENHALLI, common at river sides.
37. LEISTUS FULVIBARBIS, local; taken in ditch at Tweed side.
39. LEISTUS RUFESCENS, not common, but found all over.
40. CLIVINA FOSSOR, common everywhere.
64. DROMIUS QUADRIMACULATUS, not common.
83. LORICERA PILICORNIS, quite common.
95. BADISTER BIPUSTULATUS, not common.
102. CALATHUS CISTELOIDES, fairly common.
106. CALATHUS MELANOCEPHALUS, everywhere.
108. CALATHUS PICEUS, not common; Clovenfords and Caddonfoot Fir woods.
112. ANCHOMENUS PRASINUS, common.
113. ANCHOMENUS ALBIPES, common.
118. ANCHOMENUS PARUMPUNCTATUS, common.
126. ANCHOMENUS GRACILIS (?), Selkirk.

145. *PTEROSTICHUS NIGRITA*, common.
 149. *PTEROSTICHUS DILIGENS* (?), common.
 155. *PTEROSTICHUS STRIOLA*, Fir woods at Caddonfoot, local.
 160. *AMARA SPINIPES*, common.
 171. *AMARA ACUMINATA*, common.
 178. *AMARA OVATA*, reported by Mr Clapperton.
 181. *AMARA PLEBEIA*, common.
 199. *HARPALUS RUFICORNIS*, common.
 202. *HARPALUS PROTEUS*, fairly common.
 206. *HARPALUS LATUS*, fairly common.
 259. *BEMBIDIUM RUFESCENS*, rare; under bark of old tree at Ellwyn.
 287. *BEMBIDIUM ATROCERULEUM*, common; damp places.
 294. *BEMBIDIUM LITTORALE*, common; damp places.
 332. *HYPHYDRUS OVATUS*, not common; Faldonside Loch.
 342. *DERONECTES 12-PUSTULATUS*, rare.
 343. *DERONECTES DEPRESSUS*, common on weeds in Tweed.
 344. *DERONECTES ASSIMILIS*, do. do.
 374. *HYDROPORUS PALUSTRIS*, Faldonside Loch.
 383. *AGABUS BIGUTTATUS*, common.
 384. *AGABUS PALUDOSUS*, very rare.
 391. *AGABUS NEBULOSUS*, rare; at Gala-Rig moss, Selkirk.
 397. *AGABUS STURMI*, very common.
 400. *AGABUS BIPUSTULATUS*, very common.
 401. *PLATAMBUS MACULATUS*, very common in Tweed.
 402. *ILYBIUS ATER*, quite common in ponds.
 407. *ILYBIUS FULIGINOSUS*, quite common in ponds.
 414. *RHANTUS EXOLETUS*, fairly common in ponds.
 416. *COLYMBETES FUSCUS*, common in ponds.
 417. *DYTISCUS PUNCTULATUS*, rare; taken in Gala-Rig moss, Selkirk, and one taken alive in a coal cellar in Selkirk, January, 1906.
 419. *DYTISCUS MARGINALIS*, fairly common.
 430. *GYRINUS NATATOR*, common on ponds and streams.
 440. *HYDROBIUS OBLONGUS*, not common; taken by Mr John Roseburgh.
 470. *HELOPHORUS AQUATICUS*, fairly common on water weeds; plenty where found.
 888. *TACHINUS RUFIPES*, common.
 938. *QUEDIUS TRISTIS*, fairly common.

954. *CREOPHILUS MAXILLOSUS*, fairly common on dead animals.
956. *LEISTOTROPHUS NEBULOSUS*, very rare; Ellwyn, etc.;
dung.
963. *STAPHYLINUS CÆSAREUS*, rare; in dung.
964. *OCYPUS OLENS*, fairly common; "The Devil's coach
horse."
972. *OCYPUS MORIO*, fairly common.
974. *PHILONTHUS SPLENDENS*, common in dung.
976. *PHILONTHUS LAMINATUS*, common in dung.
983. *PHILONTHUS POLITUS*, fairly common in dung.
988. *PHILONTHUS VARIUS*.
1029. *XANTHOLINUS GLABRATUS*, fairly common in dung, &c.
1052. *LATHROBIUM FULVIPENNE*, do. do.
And a host of others not set up and named.
1536. *NECROPHORUS HUMATOR*, fairly common on dead animals.
1539. *NECROPHORUS RUSPATOR*, do. do.
1540. *NECROPHORUS MORTUORUM*, do. do.
1543. *SILPHA THORACICA*, very rare.
1544. *SILPHA RUGOSA*, very common.
1547. *SILPHA OPACA*, very rare; only a few captures recorded.
1554. *SILPHA ATRATA*, common.
HISTER, 5 or 6 varieties captured, but not named;
not at all common, though some of the varieties not
rare; dung and dead "meat."
1697. *RHIZOPHAGUS DEPRESSUS*, common under bark of trees.
1746. *ANTHEROPHAGUS NIGRICORNIS*, on flowers at Fernilea.
1863. *ADALIA OBLITERATA*, not common.
1864. *ADALIA BIPUNCTATA* (?), rare.
1865. *COCCINELLA VARIABILIS*, fairly common; hardly two
alike.
1882. *EXOCHOMUS QUADRIPUSTULATUS*, not at all common.
1940. *BYRRHIUS PILULA*, exceedingly rare; one captured by
Mr John Roseburgh.
1941. *BYRRHIUS FASCIATUS*, also rare; one by J.R. another by
myself.
1944. *CYTILUS VARIUS*, very rare.
1982. *APHODIUS ERRATICUS*, very rare; sheep dung, Whinney
Brae, Boleside.
1984. *APHODIUS FOSSOR*, very common in dung.
1988. *APHODIUS FIMETARIUS*, do.

1989. *APHODIUS ATER*, very common in dung.
1997. *APHODIUS RUFESCENS*, do.
2015. *APHODIUS PRODRONUS*, do.
2017. *APHODIUS CONTAMINATUS*, do.
2019. *APHODIUS RUFIPES*, do.
2020. *APHODIUS LURIDUS*, do.
2036. *GEOTRUPES TYPHÆUS*, reported by Mr Wm. Pringle, but very doubtful.
And 3 or 4 others, some of them common.
2049. *SERICA BRUNNEA*, not common; night flying; Clovenfords, Faldonside, &c.
2050. *MELOLONTHA VULGARIS*, very rare; reported from Faldonside.
2094. *CRYPTOHYPNUS RIPARIUS*, common in cultivated fields; often under stones.
2106. *ATHOUS NIGER*, fairly common.
2107. *ATHOUS HÆMORRHOIDALIS*, common; often got on nettles.
2108. *ATHOUS VITTATUS*, very rare; two at Hollybush.
2114. *CORYMBITES CUPREUS*, very rare; one taken at Waterworks.
2117. *CORYMBITES QUERCUS*, and variety *OCHROPTERUS*, fairly common.
2126. *AGRIOTES OBSCURUS*, quite common.
2129. *AGRIOTES PALLIDULUS*, quite common on oak trees.
2131. *DOLOPIUS MARGINATUS*, not common; on oak trees.
2135. *DASCILLUS CERVINUS*, very rare; took one only at Clovenfords.
2136. *HELODES MINUTA*, very rare; took one near Boleside Station.
2159. *TELEPHORUS RUSTICUS*, common.
2164. *TELEPHORUS PELLUCIDUS* (?).
2167. *TELEPHORUS BICOLOR*, common.
2175. *TELEPHORUS FULVUS*.
2177. *TELEPHORUS LIMBATUS*.
2178. *TELEPHORUS PALLIDUS* (?). (Not sure whether common or rare, but all been taken, I think.)
2284. *BLAPS MORTISAGA*, rare.
2416. *OTIORHYNCHUS PICIPES*, very common on oak trees.
2417. *OTIORHYNCHUS SULCATUS*, rare.
2421. *OTIORHYNCHUS MUSCORUM*, not common.

2441. *PHYLLOBIUS GLAUCUS*, common; plenty on road between King's Knowes and the bridge at Slaughter houses.
2444. *PHYLLOBIUS ARGENTATUS*, common on beech.
2446. *PHYLLOBIUS OBLONGUS*, common on hedges.
2447. *PHYLLOBIUS POMONÆ*, common on road sides.
2449. *PHYLLOBIUS VIRIDICOLLIS*, do.
2454. *LIOPHLEUS NUBILUS*, rare; took two near Langlee Mains pond.
2455. *BARYNOTUS OBSCURUS*, rare.
2458. *STROPHOSOMUS CORYLI*, common on oak.
2463. *STROPHOSOMUS LATERALIS*, rare; heather on Yair Hill.
2465. *SITONES FLAVESCENS*, common.
2505. *HYPERA PUNCTATA*, rare.
2509. *HYPERA RUMICIS*, rare; one taken on Gala Hill.
2535. *HYLOBIUS ABIETIS*, fairly common, fir plantations.
2536. *PISSODES PINI*, two taken at Stantling Craigs.
2541. *ERIRHINUS ÆTHIOPS*. This is, so far as I know, the best capture for the district, and is recorded from only a very few places in Britain. First taken at Faldonside Loch by Mr John Roseburgh.
2542. *ERIRHINUS ACRIDULUS*, not so rare; also first taken by Mr Roseburgh at the same place.
2640. *CIONUS SCROPHULARIÆ*, common.
2646. *CIONUS PULCHELLUS*, not so common.
2672. *CÆLIODES QUADRIMACULATUS*, common on nettles.
2704. *CEUTHORHYNCHUS POLLINARIUS*, common on nettles.
2782. *APION ONOPORDI*, not uncommon.
2871. *ATTELABUS CURCULIONOIDES*, rare; took one at Yair on hazel.
2959. *ASTYNOMUS ÆDILIS*, very rare; one taken at Walkerburn.
2975. *RHAGIUM INQUISITOR*, very rare; one only by Mr Wm. Roseburgh.
2977. *RHAGIUM BIFASCIATUM*, common; best place to look for it, old fir stumps.
3003. *DONACIA BIDENS*, rare; Gala-Rig moss, Selkirk.
3012. *DONACIA SIMPLEX*, common; water plants; plenty at Faldonside.
3018. *DONACIA DISCOLOR*, very rare; Long moss, Selkirk.
3022. *HÆMONIA CURTISI*, rare; Cauldshiels Loch.

3026. *LEMA CYANELLA*, not common; water plants.
3029. *LEMA MELANOPA*, very rare; took one only near Seven Trees.
3059. *CHRYSOMELA STAPHYLÆA*, not common.
3068. *CHRYSOMELA FASTUOSA*, very common on white day-nettles at Selkirk, but not recorded at Galashiels.
3070. *CHRYSOMELA POLITA*, not very common; Clovenfords and Cauldshiels.
3072. *CHRYSOMELA HYPERICI*, rare; only one, Selkirk.
3081. *GONIOCTENA OLIVACEA*, common on broom.
3083. *GASTROPHYSA POLYGONI*, fairly common.
3087. *PHÆDON BETULÆ*, good number taken in old reservoir on Wat's Hill.
3092. *PHRATORA VITELLINÆ*, common on poplar.
3094. *PRASOCURIS MARGINELLA*, fairly common on king-cups.
3114. *LUPERUS FLAVIPES*, fairly common.
3124. *CREPIDODERA RUFIPES*, rare; Selkirk.
3158. *PHYLLOTRETA UNDULATA*, quite common.
3229. *SPHÆRODERMA* or *SPHERIDIUM TESTACEA*, thistles on Whinney Brae.
3241. *CASSIDA FLAVEOLA*, rare; took two at Clovenfords.

List of Land and Freshwater Mollusca found in Galashiels and neighbourhood by Mr J. Roseburgh, Galashiels, member of the South of Scotland Entomological and Natural History Society.

Family ARIONIDÆ.

- ARION ATER (L.), common everywhere.
 ARION SUBFUSCUS (L.), near Jedburgh.
 ARION HORTENSIS (Fér.), Langlee Mains, Galashiels.
 ARION CIRCUMSCRIPTUS (Johnst.), on side of pond, Langlee.

Family LIMACIDÆ.

- LIMAX MAXIMUS (L.); Ellwyn. Fairly common.
 LIMAX MARGINATUS (Müll.), very common on trees.
 AGRILOLIMAX AGRESTIS (L.), very common, fields and gardens;
 also the varieties RETICULATA, BRUNNEA, and NIGRA are
 fairly common.

Family VITRINIDÆ.

- VITRINA PELLUCIDA (Müll.), common under stones and pieces
 of wood.

Family ZONITIDÆ.

- HYALINIA OELLARIA (Müll.), very common.
 HYALINIA ALLIARIA (Miller), very local; and has only been
 found at Ellwyn, under stones near an old dyke.
 HYALINIA NITIDULA (Drap.), fairly common.
 HYALINIA CRYSTALLINA (Müll.), widely distributed, but never
 plentiful. Ellwyn, Cauldshiels, Faldonside Loch, Caddon-
 foot are a few of the places where it is found.
 HYALINIA FULVA (Müll.), more common than the latter at
 Ellwyn and Faldonside.
 HYALINIA NITIDA (Müll.). This is a very rare Shell, the only
 station where it is found in Scotland being at Faldonside.

Family HELICIDÆ.

- HELIX ROTUNDATA* (Müll.), common.
- HELIX PYGMÆA* (Drap.), found at Ellwyn; very rare.
- HELIX ACULEATA* (Müll.), very scarce; only locality known is at Ellwyn.
- HELIX PULCHELLA* (Müll.). This pretty little Shell is very local; found in a field at Easter Langlee, on the railway bridge at Leaderfoot; and on the Abbey walls at Dryburgh.
- HELIX ASPERSA* (Müll.), also very local; is only found in Bridge Street Gardens; no other known station nearer than Roxburgh where it is very plentiful.
- HELIX NEMORALIS* (L.), very common on hedge banks everywhere.
- HELIX HORTENSIS* (Müll.), not very common in this district; Buckholm Tunnel and Melrose Road, near Oaklea.
- HELIX ARBUSTORUM* (L.), more plentiful than the last; has been got at Buckholm Tunnel, Langhaugh, near Abbot's Mill, and Galafoot.
- HELIX RUFESCENS* (Penn.), found near Denholm.
- HELIX HISPIDA* (L.), moderately common; var. *ALBIDA*, found at Caddon Linns.
- HELIX GRANULATA* (Alder), only three specimens have been found at Ellwyn.
- HELIX FUSCA* (Mont.). The only station for this Shell is at the foot of Blakeburn, where it enters the Ellwyn. It is easily got by shaking the lower branches of the trees into an umbrella, especially in the autumn.
- HELIX CAPERATA* (Mont.), fairly common on trees near Joppa, and on railway bridge at Galafoot; although not scarce it seems not to thrive, as no perfect specimen has yet been obtained, all having few or no markings on them, and being without a lip.

Family PUPIDÆ.

- BULIMINUS OBSCURUS* (Müll.), Buckholm Tunnel and Ellwyn-foot; not common.
- PUPA CYLINDRACEA* (Da Costa), very common wherever there is old lime.

VERTIGO SUBSTRIATA (Jeff.), very rare; at Ellwyn and on shores of Faldonside Loch.

VERTIGO EDENTULA (Drap.), found only at Ellwyn; rare.

BALEA PERVERSA (L.), very local at Caddon Linns, Torwoodlee, and Buckholm Tunnel.

CLAUSILIA PERVERSA (Pult.), on the stone walls at Buckholm Tunnel, Caddonfoot, and Yair.

Family STENOGYRIDÆ.

COCHLICOPA LUBRICA (Müll.), not very common, but distributed all over the district.

Family SUCCINEIDÆ.

SUCCINEA PUTRIS (L.), local, but very abundant where it occurs, at Faldonside Loch and Clovenfords.

SUCCINEA ELEGANS (Risso), in company with *PUTRIS* at Clovenfords; common.

Family AURICULIDÆ.

CARYCHIUM MINIMUM (Müll.), very common on wood and under stones at Ellwyn, Buckholm Tunnel, and Faldonside.

Family LIMNÆIDÆ.

SEGMENTINA NITIDA (Müll.), Faldonside Loch and Abbot's Moss; very scarce.

PLANORBIS FONTANUS (Lightfoot), very few in Faldonside Loch.

PLANORBIS NAUTILEUS (L.). This Shell abounds in Faugh Hill Moss, but occurs very sparingly in the only other station, Faldonside Loch.

PLANORBIS ALBUS (L.), common in Faldonside Loch and Pot Loch, Selkirk.

PLANORBIS PARVUS (Say.). A few have been obtained in Faldonside Loch, but very scarce.

PLANORBIS CONTORTUS (L.). This Shell is fairly common where it occurs, and varies greatly in size in different localities. The Meigle Moss specimens are the largest found in the

district, while those from Housebyers' Moss are the smallest. Those found in Abbot's Moss and Faldonside Loch are of medium size.

- PHYSA FONTINALIS* (L.), not uncommon in Faldonside Loch, Ellwyn, and a few of the lochs on Selkirk Common.
- LIMNÆA PEREGRINA* (Müll.), very common in all rivers, lochs, ditches; var. *BURNETTI* has been found in Loch Skeen, but although I have seen hundreds of the variety, I have never been able to obtain a type specimen.
- LIMNÆA PALUSTRIS* (Müll.), fairly common in Faldonside Loch; var. *DECOLLATUM* is found in Meigle Moss, but I have not been able to find a type of this Shell.
- LIMNÆA TRUNCATULA* (Müll.), not a rare shell; found in Faldonside and Cauldshiels Lochs and Stantlin Craigs Loch.
- ANCYLUS FLUVIATILIS* (Müll.), Tweed, Ellwyn, and Ladhope Burn; very common. Var. *ALBIDA* has been got at the Deadwater, near Abbotsford.
- VELLETIA LACUSTRIS* (L.), common in Pot Loch, Selkirk.

Family VALVATIDÆ.

- VALVATA PISCINALIS* (Müll.), Faldonside Loch; common.
- VALVATA CRISTATA* (Müll.), very rare; Faldonside Loch.

Family UNIONIDÆ.

- ANODONTA CYGNEA* (L.), a few from Tweed, near Rutherford.
- ANODONTA ANATINA* (L.), found in Lambden Burn, Eccles; rare.

Family SPHÆRIIDÆ.

- SPHÆRIUM CORNEUM* (L.), common, Loch on Galarig, Selkirk; and Housebyers' Moss, very common.
- PISIDIUM FONTINALE* (Drap.), very common in any stagnant water.

Notes on a Jacobite Family Document. By DELAVAL
KNIGHT GREGSON AND WILLIAM MADDAN,
Berwick-on-Tweed.

So MUCH interest has in recent years been taken in all that concerns Bonnie Prince Charlie and the Jacobite Rising of 1745, that little, if any, excuse is required for directing attention to a Warrant of Protection by the Pretender in favour of John Gregson in Wark, a tenant of the Earl of Tankerville, dated Kelso, 5th November 1745, and never before published. Through the favour of Mr Harold S. Knight Gregson, ninth and youngest son of the late Mr Henry Gregson, D.L., of Low Lynn, we are able to present a facsimile (Plate XI.) of this interesting family document. For an account of John Gregson, tenant of Wark, see Club's Transactions for 1890-1891, pp. 392-3, communicated by the late Mr R. G. Bolam. The Warrant runs in the following rather grandiloquent terms:—

Charles Prince of Wales, &c., Regent of
Scotland, England, France and Ireland,
and the Dominions thereunto belonging:
To all his Majesty's Officers, Civil or
Military,

These are requiring you to protect and defend
the Estate house and effects of John Greigson
in Wark, in the County of Northumberland, from
all violence or injuries to be done against them
by any person or persons whomsoever. Given
at Kelso the fifth day of November 1745.

By his Highness's Command,
Jo. Murray.

It bears the signature in a fine old hand of the famous, or rather infamous, John Murray of Broughton, who played an unhappy part as the Prince's Secretary and as Government witness afterwards. There is an interesting and graphic notice of him in Sir Walter Scott's *Life of Lockhart*, chapter VI.,

from which the following may be extracted as illustrative of the man who signed the document now before us:—

“This was the unhappy man who, after attending Prince Charles Stuart as his secretary throughout the greater part of his expedition, condescended to redeem his own life and fortune by bearing evidence against the noblest of his late master’s adherents, when

‘Pitied by gentle hearts Kilmarnock died—
The brave, Balmerino, were on thy side.’

When confronted with Sir John Douglas of Kelhead (ancestor of Marquess of Queensbury), before the Privy Council in St. James’s, the prisoner was asked, ‘Do you know this witness?’ ‘Not I,’ answered Douglas; ‘I once knew a person who bore the designation of Murray of Broughton—but that was a gentleman and a man of honour, and one that could hold up his head!’”

Many of the prominent lairds on both sides of the Borders openly sympathised with the Pretender’s cause when the Prince was at Kelso, and no doubt Mr Gregson (or Greigson, as spelled in the Warrant) was of pronounced Jacobite leanings.

Mr Gregson was one of the early pioneers of agricultural enterprise, and preceded the enterprising Culley family in developing the resources of the soil. He was one of the first to effectually demonstrate the usefulness of the turnip for feeding black cattle and sheep. He was also, as Mr Bolam points out, famous for his hospitality and excellent claret.

John Gregson died in August 1779, and the *Newcastle Chronicle*, in an obituary notice, stated that by “his attention and efforts in husbandry he had acquired, with the best of characters, a very large fortune.” He acquired by purchase a moiety of the estate known as Low Lynn, and the other moiety was purchased by his son, Anthony Gregson, whose son, also Anthony, served as High Sheriff of Northumberland, 1825-6.

Mr Anthony Gregson was succeeded by his kinsman, Mr Henry Knight (eldest son of Rev. Thomas Knight, Rector of Ford), who assumed, in terms of the settlement, the name of Gregson. He served as High Sheriff of the County, 1870-71. The family estate is now owned by Mr Clarence Knight Gregson, grandson of the late Mr Henry Gregson.

Itinerary. Selkirk to Rodono, St. Mary's Loch, and back; Friday, 29th July 1904. By T. CRAIG-BROWN, Selkirk.

Miles. Side.

- R. Victoria Park, part of town's common, enclosed and dedicated to memory of Queen Victoria. Bridge over Ettrick, built to replace old one half a mile down, swept away 1777. First bridge built two miles lower down in 1234, by Alexander II.
- R. Philiphaugh Farm Steading, to which French prisoners, 1811—1814, allowed to walk on parole. Between bridge and farm must have been hottest part of battle in 1645, when Leslie defeated Royalists under Montrose.
- 1 R. Leslie Cottage, occupied by Mr T. Scott, R.S.A., near site of house in which a Royalist officer had quarters, and left his sword.
- R. Number of small cannon balls found in bank by roadside. From top of scaurs on other side of river Ettrick, battle watched by townspeople.
- 1½ I. Junction of Yarrow with Ettrick Water.
- 2½ R. Mansion-house of Philiphaugh (see return drive.)
- 3 L. Bowhill (Duke of Buccleuch's) under lodge.
- 4 R. Foulshiels Cottage, in ruins, birthplace of Mungo Park.
- L. Newark Tower (return).
- 4½ R. Broadmeadows. In 1803 Sir Walter Scott, sure of becoming possessor, appointed the Ettrick Shepherd his steward, but Sir Walter was out-bid by a Mr Boyd.

- | Miles. | Side. |
|--------|---|
| | R. Road leading over Minchmoor to Traquair, by which Montrose escaped from Philiphaugh. |
| 6 | R. Hangingshaw (return). |
| 8 | R. Tinnis Farm, bought from Pringles by Buccleuch, 1619. |
| 8½ | L. Deuchar Mill. To R. on bank of burn, remains of D. Tower invisible from road. In Greyfriars' Churchyard, Edinburgh, remarkable epitaph of Sir James Murray of Deuchar. On Deuchar Swire was fought the duel between Thirlestane and Tushielaw. |
| | L. Old Bridge destroyed by flood, 1734. |
| 9 | R. Yarrow Kirk and Manse (Rev. R. Borland, author, and speaker on Yarrow and Scottish literature). Kirk built in 1640. Here is tombstone of Sir Walter Scott's great-grandfather, minister of the parish. |
| | R. Celebrated standing-stone, with Romano-British inscription. |
| | L. Ladhope Farm-house, ravaged and burnt by the English in 1543, and in 1544. |
| 11 | R. Catslackburn burnt by the Kerrs in 1548, the aged widow of Buccleuch (herself a Kerr of Cessford) perishing in the flames. |
| 13 | R. Gordon Arms Inn. Short halt. Farm to R. is Mountbenger, originally Mont Berger, French for "Shepherd's Hill." Long occupied by the King's and Queen's own flocks. Hogg's house, Bengerknowe, stood on knoll behind the present farmhouse. He died at Eldinhope Farm, across the river. |

- | Miles. | Side. | |
|--------|-------|---|
| 14 | R. | Craig of Douglas. Tower demolished by James II., 1450. Further up Douglas Burn is Blackhouse Tower, scene of "The Douglas Tragedy." |
| 15 | R. | Dryhope Tower, formerly a seat of the Scotts of Harden, and birthplace of Mary Scott, the Flower of Yarrow. |
| 16 | R. | Kirkstead—so named from having been glebe land of Old Kirk of St. Mary's. |
| 17 | R. | On slope, but invisible from road, St. Mary's Kirkyard, and mounds of ancient church, beautifully described in the introduction to the second Canto of Marmion. |
| 18 | R. | Coppercleuch Free Church. |
| 18½ | R. | Bridge over Meggat Road to Henderland, from which fastness Wm. Cockburn was dragged by James V. and executed in Edinburgh, 1530. Henderland Hill, 1740 feet, lies behind St. Mary's Kirk. |
| 19 | | Rodono Hotel. |

RETURN DRIVE.

The same route will be followed until Hangingshaw Drive is entered, passing modern house, close by site of old castle, burnt with many treasures, 1768. Another slight detour through Bowhill Policy, passing Newark Tower, where The Last Minstrel recites his Lay. From Bowhill under lodge, cross main road to Philiphaugh grounds, passing the beautiful mansion of our member, William Strang Steel, Esq., D.L., and further on to (R.) an ivy-clad cairn, in memory of Covenanters who fell on the battlefield, 1645. At Thirladean, small lake in front, the late Mr Russell of *The Scotsman* spent several summers.

OBITUARY NOTICE.

The Very Rev. Thomas Leishman, D.D., F.S.A. (Scot.)

By REV. DAVID PAUL, LL.D., Edinburgh.

SINCE the issue of the last part of its Proceedings the Club has lost one of its oldest remaining members, the Very Rev. Thomas Leishman, D.D., minister of Linton, and it would not be fitting that such an event should be allowed to pass without notice.

The facts of Dr Leishman's life are briefly these. He was born, 7th May, 1825, in the Manse of Govan, where his father, Dr Matthew Leishman, a man well known in his day, was the Parish Minister. He studied in the University of Glasgow, and in due time received licence as a preacher in the Church of Scotland. His first charge was at Collace, a small parish in the Presbytery of Perth, to which he was ordained on the 1st of July, 1852. After a ministry there of less than three years he was presented to the Parish of Linton, and inducted 7th June, 1855. His ministry in Linton lasted for nearly half a century. In 1895 his son, the Rev. James F. Leishman, M.A., the present minister of Linton, was appointed assistant and successor to aid him in his work, and Dr Leishman retired to Edinburgh, where he died, 13th July, 1904, in his eightieth year.

The Parish of Linton in which his lot was cast for so many years is a purely rural parish, shut off from the highways of life, quiet and peaceable, sharing in the natural beauties of the Border district in which it lies. Its four

hundred inhabitants are mainly engaged in the cultivation of its fine farms, and there is little to stimulate one to study, or mental activity. A less energetic man than Dr Leishman would have been content to discharge his pastoral duties, and pass his days in mental somnolence. He did not yield to that temptation. He was essentially a student, an omnivorous reader, and one who digested and remembered what he read. While he took an intelligent interest in many subjects, the natural bent of his mind was towards history, especially ecclesiastical history. In this department he was an acknowledged authority, and in the history of the Reformation, in which he specialized, no man in Scotland possessed a larger store of accurate information. He could move in that period with the freedom of a contemporary. There was little in regard to creeds or parties or the notable churchmen of the sixteenth and seventeenth centuries which he did not know. Possessed of a large library he had at his command an ample collection of the literature of that time, some of his books being curious and rare, and his retentive memory enabled him to master their contents. It was not surprising, therefore, to those who knew him, that when the Chair of Ecclesiastical History at Glasgow became vacant, in 1875, his name should be found in the list of applicants. It seemed to be the true sphere of work for him, in which his accumulated fund of knowledge could be turned to best account. He was not, however, successful in gaining the Chair, for interest has a share with merit in deciding these appointments; but the University of Glasgow had four years before marked its sense of his ability and scholarship by bestowing on him the Degree of Doctor of Divinity, and later still the Church of Scotland, in 1898, raised him to the Moderator's chair of its General Assembly, the highest honour it could confer upon him.

Dr Leishman's works on Church History were neither many nor voluminous. His modesty, though it was one of the fine traits of his character, had the unfortunate effect of preventing him from giving to the world much that would have been valuable. In 1868, in conjunction with the Rev. Dr Sprott of North Berwick, another member of the Club, he published an edition of "The Book of Common Order of

the Church of Scotland, commonly known as John Knox's Liturgy, and the Directory for the Public Worship of God, agreed upon by the Assembly of Divines at Westminster," with historical Introductions and Notes. These Introductions and Notes by the Joint-editors abound in curious and interesting information relating to the worship of the Church in the periods dealt with, and form a valuable addition to the literature of the subject. Dr Leishman was mainly responsible for that part of the book which deals with the Directory. In 1875 he published a pamphlet with the title, "May the Kirk keep Pasche and Yule?" in which he advocated the special observance of Easter and Christmas as religious festivals in the Scottish Church. Still later, he furnished the section on "The Ritual of the Church" to the volumes entitled "The Church of Scotland, Past and Present," edited by Principal Story of Glasgow University, using his wealth of knowledge to present a clear historical account of the varied practice in public worship that has been observed since the Reformation. He was also selected to deliver one of the Lee Lectures, his subject being "The Moulding of the Scottish Reformation," and the Macleod Memorial Lecture on "The Church of Scotland, as she was, and as she is."

Dr Leishman was admitted a member of the Club, October 20th, 1856, the year after he came to Linton. If he were still alive, he would now stand second on the list of members. He attended the meetings very frequently, and in 1885 he was elected President. While he was interested in all the varied pursuits of the Club, he applied himself mainly to the branch of Antiquities and Archæology. He had studied neither Botany nor Zoology, his tastes running in another direction, but an old church or a ruined castle appealed to his historical instinct. His wide historical reading enabled him to throw himself easily into the past, and to reproduce the scenes of its story, whether the building were a fastness of the Kerrs or an Abbey of the Dominicans. He was a good conversationalist, and a most interesting companion at any meeting of the Club where interest centered in the records of the past, rather than in animals and plants. Unfortunately his contributions to the Club's Proceedings

were very few. Besides his Presidential Address, in which he did not take up a special subject to discuss, there are only two papers from his hand. One (1867) dealt with ancient Scottish customs and superstitions, based on the Records of the Presbytery of Kelso between the years 1609 and 1687, full of curious matter illustrative of the habits of thought of the Border men of the 17th century. His other paper (1895) was simply the reproduction in print of a valuable unpublished manuscript in his possession on "The State of the Kirks within the Presbytery of Kelso, July, 1649." It should be mentioned also that when the Club visited Linton, in 1901, a short paper by Dr Leishman was read on the history and antiquities of the Parish, a subject on which he knew everything that can now be definitely ascertained.

All who had the privilege of knowing Dr Leishman will agree that he was a finished specimen of a Christian gentleman. No one on the Border was more deservedly respected than he. His learning and culture, his affability and courtesy, his high sense of honour, and his natural modesty, combined to form in him a character of rare excellence. As a churchman he was wise and sagacious, as a pastor he was conscientious and faithful, as a friend he was constant and true, as a man he was upright and devout. He died in the fulness of years, having served his generation well, and by his departure the Church of which he was a minister, the district in which he lived, and the Club of which he was so long a member, have alike suffered loss.

OBITUARY NOTICE.

Rev. Thomas Martin, M.A.

By REV. WILLIAM WORKMAN, Stow.

It is with the deepest regret we have to record another great loss which the Club has sustained in the removal, by death, of a most esteemed name from our list of membership, that of the Rev. Thomas Martin, M.A., the minister of the Parish of Lauder. The deceased gentleman was a man of ripe scholarship and of the highest culture, possessing a wide and varied knowledge in the departments of literature, science and art, an enthusiastic archæologist and antiquarian, and a botanist of no mean order. In the affairs of the Club generally Mr Martin took a lively interest, the members acknowledging their sense of the valuable services rendered to the Club by unanimously conferring upon him the highest honour in their power by appointing him President, which office he held in 1903.

Mr Martin was in every sense of the term a model parish minister, being an eloquent and thoughtful preacher, a most faithful pastor, a safe counsellor, and a true friend, in whom old and young alike placed implicit confidence; and he was personally identified with, and took a leading part in, all matters pertaining to the public interest and welfare of the Burgh and Parish.

In Mr Martin's death, which took place at the Manse on the 20th September, 1904, the Church of Scotland lost one of her most faithful ministers, and the "B.N.C." one of its most esteemed members.

OBITUARY NOTICE.

Mr C. B. P. Bosanquet of Rock.

By JOHN CRAWFORD HODGSON, F.S.A., Alnwick.

IN the Huguenot emigration which followed the Revocation of the Edict of Nantes, two of the sons of Pierre Bosanquet of Lunel in Languedoc made their escape. David Bosanquet—one of the two—having fled first to Geneva, reached England in 1686, and in the following year was naturalised by warrant. His great grandson, Mr Charles Bosanquet, a member of the firm of Manning, Anderdon & Company, merchants in London, having married a daughter of Mr Peter Holford of Weston-birt, co. Gloucester, a master in Chancery, acquired in 1804, by arrangement with his wife's brother, Mr Robert Holford, the beautiful estate of Rock, in the parish of Embleton, Northumberland. Mr Charles Bosanquet died in 1850, being succeeded by his eldest surviving son, the Rev. Robert William Bosanquet, sometime rector of Bolingbroke in Lincolnshire, who, dying in 1880, was succeeded by his eldest son, Mr C. B. P. Bosanquet.

Charles Bertie Pulleine Bosanquet was born 27th December 1834, educated at Eton and at Balliol College, Oxford, where he matriculated 14th March 1853, and graduated B.A. in 1857, and M.A. in 1859. He was admitted to Lincoln's Inn 15th January 1858, and, after leaving Oxford, resided some years in London, where he was one of the founders of the Clarity Organization Society, and its first secretary. He was

also one of the founders and joint-secretary of the London Diocesan Association of Lay Helpers. Returning to Northumberland in 1875, he identified himself with the public life of the county, and especially that of the neighbourhood in which he lived. The Alnwick Board of Guardians, the Alnwick Rural District Council, the Northern Union Poor Law Conferences, the Newcastle Diocesan Committees, and the Northumberland district of the Church Missionary Society, all knew the value of his devoted, high principled, and disinterested services.

Mr Bosanquet became a member of our Club as far back as 29th September 1859, and it is to be regretted that, although solicited, his numerous public duties did not permit him to occupy the office of President of the Club. He was, however, a frequent attender at our meetings, where his presence was always welcomed.* He was also a member of the Newcastle Society of Antiquaries, having joined that Society on 27th December 1883, and was one of the founders and original members of the Northumberland History Committee, whose monthly meetings, in Newcastle, he attended very regularly.

Mr Bosanquet died at Richmond, in Yorkshire, 18th June 1905, and a few days later was laid to rest in the graveyard attached to the ancient chapel of Rock, a stone's throw from his own door. He married, 31st July 1862, Miss Eliza Isabella Carr, daughter of Mr Ralph Carr-Ellison of Hedgeley, Northumberland, and of Dunstan Hill, co. Durham (one of the earliest members of our Club, and a valued contributor to our Transactions) by whom he left two sons and six daughters.

* Vol. ix. of the Transactions contains some short notices from Mr Bosanquet's pen upon the effects of the Winters 1878-1879 and 1879-1880.

Account of Monthly Rainfall in the County of Berwick—1904.

By JAMES HEWAT CRAW, West Foulden,
Berwick-on-Tweed.

	St. Abb's Lighthouse.	West Foulden.	Whitsome Hill.	Manderston.	Dnns Castle.	Marchmont House.	The Hirsell.	Lochton.	Cowdenknowes.
January	2·44	2 07	1 73	2·21	2 72	2·53	1·98	1·45	2·12
Febry.	1·81	3·15	2 83	2·92	3·44	2·33	2·31	2 21	2·90
March	1·45	1·65	1·46	1·94	2·44	2·22	1·77	1·83	2 29
April	1·31	99	1·03	1·33	1·76	2·04	91	1 23	1·79
May	1·97	2 35	2·56	2·83	3·03	2·83	2·39	1·82	2·50
June	1·47	1 95	1·92	1·88	2·05	2·31	2·25	1·99	2·82
July	98	2 06	1·52	2·10	2·61	2·45	2·12	2·43	2·92
August	2 54	3·45	2·77	2·64	3·10	2·83	2·75	3 00	3·15
Sept.	19	90	58	1 00	1 30	1 07	95	63	1 12
October	25	83	73	75	83	1 16	86	83	87
Nov.	2 47	3 00	2 37	1 89	1 46	1 66	2 39	1 95	2 00
Dec.	1 71	2 22	2 15	2 45	1 86	2 63	2 26	2 22	2 11
Total (inches)	18 59	24 62	21 65	23 94	26 60	26 06	22 94	21 59	26 59

Note of Rainfall and Temperature, West Foulden—1904.

By JAMES HEWAT CRAW, West Foulden,
Berwick-on-Tweed.

	RAINFALL.		TEMPERATURE.	
	Inches.	100ths.	Max.	Min.
January	...	2 07	50	28
February	...	3 15	48	23
March	...	1 65	53	21
April	...	0 99	69	32
May	...	2 35	78	35
June	...	1 95	75	41
July	...	2 06	76	44
August	...	3 45	72	37
September	...	0 90	73	35
October	...	0 83	64	29
November	...	3 00	48	21
December	...	2 22	55	22
		<hr/>	<hr/>	<hr/>
		24 62	78	21

Abstract of Accounts—Year 1904.

RECEIPTS.

	£	s.	d.	£	s.	d.
Balance in hand from last year				161	12	2
Arrears received	37	0	0			
13 Entrance Fees	6	10	0			
281 Subscriptions	140	10	0			
	<hr/>			184	0	0
Back Nos. of Proceedings sold:—						
By George Bolam	6	4	1			
„ Robert Blair	1	1	0			
	<hr/>			7	5	1
Bank Interest on Deposit Receipt ..				5	2	10
				<hr/>		
				£358	0	1

PAYMENTS.

Printing Proceedings, etc., 1902	97	9	7			
Plates Do., do.	20	12	9			
	<hr/>			118	2	4
Do. for Proceedings, 1901				48	17	0
Postages, etc.				6	16	0
Expenses at Meetings				11	16	7
Carriage on Donations to Club, etc. ..				1	6	5
Salmon Account				6	10	1
Berwick Museum				3	10	0
Balance in hand				161	1	8
				<hr/>		
				£358	0	1

BERWICKSHIRE NATURALISTS' CLUB.

LIST OF MEMBERS, 1906.

Those marked with one Asterisk are Ex-Presidents, and those with two are Ex-Presidents for the second time.

	Date of Admission.
**1. William B. Boyd, Faldonside, Melrose ...	Oct. 12, 1853
*2. George P. Hughes, Middleton Hall, Wooler ...	Oct. 20, 1856
3. Patrick Thorp Dickson, Creagmhor, Aberfoyle, N.B. ...	Oct. 28, 1857
4. Stephen Sanderson, The Elms, Berwick ...	June 28, 1859
5. Robert H. Clay, M.D., Wembury House, Plymstock, South Devon	May 30, 1861
6. Rev. Canon Greenwell, M.A., D.C.L., F.R.S., F.S.A., Hon. F.S.A. (Scot.), Durham	July 25, 1861
7. John Tate, Oaklands, Alnwick	July 31, 1862
8. William Crawford, Solicitor, Duns	Aug. 15, 1862
9. John Edmond Friar, Greenlaw Walls, Norham ...	June 25, 1863
*10. Robert Middlemas, Solicitor, Alnwick	do.
11. Thomas Tate, Bank House, Acklington	July 29, 1863
12. Major Robert Brown, Littlehoughton, Lesbury ...	Sep. 29, 1863
13. James Brunton, Broomlands, Kelso	Sep. 25, 1868
14. Major James Farquharson, Caledonian United Service Club, Edinburgh	do.
15. John Bolam, Bilton House, Lesbury	Sep. 30, 1869
16. Pringle Hughes, Firwood, Wooler	do.
*17. Rev. David Paul, LL.D., 53 Fountainhall Road, Edinburgh	Sep. 30, 1870

18.	Rev. Ambrose Jones, M.A., Stannington, Cram- lington	Sep. 26, 1871
19.	William Weatherhead, Solicitor, Berwick ...	do.
20.	Alexander James Main, M.D., Thornbrae, Alnwick ...	do.
*21.	Capt. J. R. Carr-Ellison, Hedgeley, Glanton ...	Sep. 26, 1872
*22.	W. T. Hindmarsh, F.L.S., Alnbank, Alnwick ...	do.
23.	Lieut.-Col. James Paton, Crailing, Jedburgh ...	do.
24.	Henry A. Paynter, Freeland, Alnwick ...	do.
25.	Rev. Evan Rutter, M.A., Spittal, Berwick ...	Sep. 25, 1873
*26.	F. M. Norman, Commander R.N., Cheviot House, Berwick	Sep. 24, 1874
27.	George Muirhead, F.R.S.E., F.Z.S., F.S.A. (Scot.), Fochabers, N.B.	do.
28.	Charles Erskine, The Priory, Melrose ...	Sep. 29, 1875
*29.	Arthur H. Evans, M.A., F.Z.S., Cambridge ...	do.
30.	T. W. McDowall, M.D., F.S.A. (Scot.), County Asylum, Cottingwood, Morpeth	do.
31.	John Halliday, 5 Holland Park, London, W. ...	do.
32.	Sir Edward Ridley, 48 Lennox Gardens, London, S.W.	Sep. 27, 1876
33.	Captain William Elliott Lockhart, Cleghorn, Lanark, N.B.	do.
34.	Rev. George W. Sprott, D.D., United Service Club, Edinburgh	do.
35.	Major James Hunter, Anton's Hill, Coldstream ...	do.
*36.	Sir George Brisbane Douglas, Bart., Springwood Park, Kelso	do.
37.	Robert Richardson Dees, Wallsend, Newcastle ...	do.
*38.	John Ferguson, F.S.A. (Scot.), Solicitor, Duns ...	do.
*39.	Sir Archibald Buchan Hepburn, Bart., Smeaton Hepburn, Prestonkirk	do.
40.	James Tait, Estate Office, Belford	Oct. 31, 1877
41.	Thomas Chas. Hindmarsh, Barrister-at-Law, 1 Essex Court, Temple, London	do.
42.	W. H. Johnson, Tweed Villa, Relugas Road, Edinburgh	do.
43.	Dr Denholm, Meadowfield House, Brandon, Durham	do.
44.	The Right Hon. The Earl of Haddington, Tynninghame House, Prestonkirk	do.
45.	Thomas Darling, F.C.S., Adderstone House, Berwick	Oct. 16, 1878
*46.	Rev. Canon Walker, M.A., Whalton Rectory, Newcastle	do.
47.	J. K. Weatherhead, Solicitor, Berwick ...	do.
48.	James A. W. Mein, Hunthill, Jedburgh ...	Oct. 15, 1879
*49.	Thomas Craig-Brown, F.S.A. (Scot.), Woodburn, Selkirk	do.
50.	Rev. Robert Small, Caddonfoot, Galashiels ...	do.

51.	Robert Henry Elliot, Clifton Park, Kelso	...	Oct. 15, 1879
52.	George Bolam, F.Z.S., Berwick	... ..	do.
*53.	John Crawford Hodgson, F.S.A., Abbey Cottage, Alnwick	... ..	Oct. 13, 1880
54.	John Broadway, Banker, Alnwick	... ..	do.
55.	Major Shallcross Fitzherbert Widdrington, Newton Hall, Felton	... ..	do.
56.	Rev. Charles Cowan, B.D., F.S.A. (Scot.), Morebattle, Kelso	... ..	do.
57.	William Alder, Halidon House, Berwick	... ..	do.
58.	Robert Weddell, Solicitor, Berwick	... ..	do.
59.	William Craig, M.D., C.M., F.R.C.S.E., F.R.S.E., 71 Bruntsfield Place, Edinburgh	...	Oct. 12, 1881
60.	The Most Hon. the Marquess of Tweeddale, Yester House, Haddington	... ..	do.
61.	Edward Johnson, M.D., 6 Bickenhall Mansions, Gloucester Place, London, W.	... ..	do.
62.	Edward Willoby, Berwick	... ..	do.
63.	Joseph Wilson, Solicitor, Duns	... ..	do.
64.	William Maddan, British Linen Co.'s Bank, Berwick	...	do.
65.	William Thompson Hall, Dunns Houses, Woodburn	...	do.
66.	T. D. Crichton Smith, Solicitor, Forestfield, Kelso	...	do.
67.	Sir Edward P. Tennant, Bart., The Glen, Innerleithen	...	do.
68.	A. L. Miller, Castlegate, Berwick	... ..	do.
69.	Colonel Alex. Murray Brown, Longformacus House, Duns	... ..	Oct. 11, 1882
70.	Richard Stephenson, Chapel, Duns	... ..	do.
71.	The Right Hon. the Earl of Home, Hirsell, Coldstream	...	do.
72.	Rev. Matthew Culley, St. Mary's, Whittingham	...	Oct. 10, 1883
73.	James Thin, 54 South Bridge, Edinburgh	...	do.
74.	Robert Shirra Gibb, M.B., C.M., Boon, Lauder	...	do.
75.	William Robertson, Alnmouth	... ..	do.
76.	Richard Burdon Sanderson, Waren House, Belford	...	do.
77.	Henry Rutherford, Fairnington Craigs, Roxburgh	...	do.
78.	James Nesbit, Lambden, Greenlaw	... ..	do.
79.	Edward A. L. Batters, B.A., LL.B., F.L.S., The Laurels, Wormley, Herts	... ..	do.
80.	John MacNaught Campbell, F.Z.S., 6 Franklin Terrace, Glasgow	... ..	do.
81.	Rev. Charles Blackett Carr, Longframlington, R.S.O.	...	Oct. 20, 1884
82.	John Hunter, 17 Hollins Road, Harrogate	...	do.
83.	Charles Percy, Hillcrest, Alnwick	... ..	do.
84.	C. Lisle Stirling Cookson, Renton House, Grant's House	...	do.
85.	David W. B. Tait, W.S., Edenside, Kelso	...	do.
86.	Dr Thomas Scott Anderson, Lintalee, Jedburgh	...	do.
87.	Delaval Knight Gregson, The Avenue, Berwick	...	do.

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| 88. | George Henderson, Upper Keith, East Lothian ... | Oct. 20, 1884 |
| 89. | Charles S. Romanes, 3 Abbotsford Crescent, Edinburgh | do. |
| 90. | Sir George Hare Phillipson, M.D., D.C.L., M.A., 7 Eldon
Square, Newcastle | do. |
| 91. | David Herriot, Sanson Seal, Berwick ... | do. |
| 92. | Alexander F. Roberts, Thornfield, Selkirk ... | do. |
| 93. | Lient.-General John Sprot, of Riddell, Lilliesleaf | do. |
| 94. | David Leitch, Greenlaw | Oct. 14, 1885 |
| 95. | Andrew Waugh, High Street, Hawick ... | Oct. 13, 1886 |
| 96. | Archibald Miller Dunlop, Daer Schoolhouse, Abington,
Lanarkshire | do. |
| 97. | William Evans, F.R.S.E., 38 Morningside Park,
Edinburgh | do. |
| 98. | George Tancred, Weens, Hawick | do. |
| 99. | The Right Hon. Lord Tweedmouth, Hutton Hall, Paxton,
Berwickshire | Oct. 12, 1887 |
| 100. | George Fortune, Kilmeny, Duns | do. |
| 101. | Rev. Macduff Simpson, Edrom, Berwickshire ... | do. |
| 102. | Edward Thew, Birling Manor, Warkworth ... | do. |
| 103. | Benjamin Morton, 18 St. George's Square, Sunderland | do. |
| 104. | Rev. William Workman, Stow | do. |
| 105. | F. Elliot Rutherford, 1 Oliver Place, Hawick ... | do. |
| 106. | Thomas Simson, Commercial Bank, Jedburgh ... | do. |
| 107. | Robert Carr Bosanquet, 42 Bedford Street, Liverpool | do. |
| 108. | Rev. Canon J. S. Wilsden, Wooler | do. |
| 109. | General J. J. Boswell, C.B., Darnlee, Melrose ... | Oct. 10, 1888 |
| 110. | Hugh Macpherson Leadbetter, Legerwood, Earlston | do. |
| 111. | The Right Hon. Sir Edward Grey, Bart., M.P., Fallodon,
Christon Bank | do. |
| 112. | Rev. J. J. M. L. Aiken, B.D., Ayton, Berwickshire | do. |
| 113. | T. B. Short, Ravensdowne, Berwick | do. |
| 114. | Matthew Mackay, 36 Highbury, W. Jesmond, Newcastle | do. |
| 115. | William John Robinson, Newmoor Hall,
Longframlington | do. |
| 116. | Thomas Mathison, Wandylaw, Chathill ... | do. |
| 117. | George Bolam, Bilton House, Lesbury ... | do. |
| 118. | James Stevenson, Architect, Berwick | do. |
| 119. | Major Gerard F. Towlerton Leather, Middleton Hall,
Belford | Oct. 9, 1889 |
| 120. | His Grace the Duke of Northumberland, K.G.,
Alnwick Castle | do. |
| 121. | George Dixon Atkinson Clark, Belford Hall ... | do. |
| 122. | Richard Welford, Gosforth, Newcastle ... | do. |
| 123. | George Tate, Brotherwick, Warkworth ... | do. |
| 124. | Robert Redpath, <i>Journal</i> Office, Newcastle ... | do. |
| 125. | Andrew Thompson, Glanton | do. |

LIST OF MEMBERS

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126.	John Cairns, Carlyle House, Alnwick	Oct. 9, 1889
127.	Rev. James Steel, D.D., Heworth Vicarage, Gateshead	do.
128.	Robert Archer, Solicitor, Alnwick	do.
129.	Rev. J. Wood Brown, M.A., 16 Corso Regina Elena, Florence	do.
130.	William Young, St. Leonards, Berwick	do.
131.	George Veitch, Northern Club, Edinburgh	do.
132.	Lawrence Morley Crossman, Cheswick House, Beal	do.
133.	James Hood, Linnhead, Cockburnspath	Oct. 8, 1890
134.	Richard Oliver Heslop, M.A., F.S.A., 12 Akenside Hill, Quayside, Newcastle-on-Tyne	do.
135.	Robert Huggup, 66 Queen's Road, Newcastle	do.
136.	Henry George Wilkin, Alnwick	do.
137.	Charles Clark Burman, M.R.C.S., Alnwick	do.
138.	Rev. Edward Robert, Ministeracres, Riding Mill, R.S.O.	do.
139.	William Little, National Bank of Scotland, Galashiels	do.
140.	Robert Carmichael, Coldstream	do.
141.	John Cochrane, Willow Bush, Galashiels	do.
142.	William Steele, F.S.A. (Scot.), Inland Revenue Office, Kelso	do.
143.	Charles Barrington Balfour, F.S.A. (Scot.), Newton Don, Kelso	do.
144.	Thomas Alder Thorp, Narrowgate House, Alnwick	do.
145.	Robert Carr, Grindon, Norham-on-Tweed	do.
146.	John Barr, 46 Main Street, Tweedmouth	do.
147.	J. R. C. Smith, Mowhaugh, Yetholm	do.
148.	Ralph Storey Storey, Beanley, Alnwick	Oct. 14, 1891
149.	R. S. Weir, 31 Linskill Terrace, North Shields	do.
150.	Thomas Graham, Sunny Bank, Alnwick	do.
151.	Thomas Dunn, 5 High Street, Selkirk	do.
152.	Dr Watson, Whittingham, Alnwick	do.
153.	H. G. McCreath, Berwick	do.
154.	Rev. Patrick Andrew Clay, Ravensdowne, Berwick	do.
155.	Andrew L. Allan, Riverside Mill, Selkirk	Oct. 12, 1892
156.	John Ford, Royal Bank of Scotland, Duns	do.
157.	James Laidlaw, Allars Mill, Jedburgh	do.
158.	Charles H. Scott Plummer, Sunderland Hall, Selkirk	do.
159.	R. Addison-Smith, S.S.C., 19 Heriot Row, Edinburgh	do.
160.	R. Colley Smith, Ormiston House, Roxburgh	do.
161.	John Scott, Synton, Hawick	do.
162.	William Strang Steel, Philiphaugh, Selkirk	do.
163.	Robert Hogg Shaw, Wester Park, Coldstream	do.
164.	Cuthbert Ellison Carr, 1 Collingwood Street, Newcastle- on-Tyne	Oct. 11, 1893
165.	Maberley Phillips, F.S.A., Pevensey-Enfield	do.
166.	George G. Turnbull, 58 Frederick Street, Edinburgh	do.

167.	John Wilson, 26 Lauder Road, Edinburgh	...	Oct. 11, 1893
168.	Rev. David Hunter, D.D., Galashiels	...	do.
169.	Dr David Christison, Secretary of the Society of Antiquaries of Scotland, 20 Magdala Crescent, Edinburgh	... ..	do.
170.	David Bruce, Station Agent, Dunbar	...	do.
171.	George Pigg, Thornhill, Alnwick	...	do.
172.	David Hume, Thornton, Berwick	...	do.
173.	Rev. J. Sharpe, Heatherlie, Selkirk	...	do.
174.	James Curle, junr., F.S.A. (Scot.), Melrose	...	do.
175.	Rev. J. Burleigh, Ednam Manse, Kelso	...	do.
176.	John Caverhill, Jedneuk, Jedburgh	...	do.
177.	J. Wright, Bank of Scotland, Duns	...	do.
178.	Allan A. Falconer, Elder Bank, Duns	...	do.
179.	William Home Waite, 12 Newtown Street, Duns	...	do.
180.	Rev. John Agnew Findlay, M.A., 7 Inverleith Terrace, Edinburgh	... ..	Oct. 10, 1894
181.	George Hardy, Oldcambus East Mains, Cockburnspath	...	do.
182.	John Thin, Ferniehirst, Stow	...	do.
183.	John Turnbull, Royal Bank, Galashiels	...	do.
184.	Stuart Douglas Elliot, S.S.C., 40 Princes Street, Edinburgh	... ..	do.
185.	Johannes Albe, 48 Easter Street, Duns	...	do.
186.	Oliver Hilson, J.P., Lady's Yard, Jedburgh	...	do.
187.	Sir Gainsford Bruce, Gainslaw House, Berwick	...	do.
188.	C. J. Leyland, Haggerston Castle, Beal	...	do.
189.	Robert Dickinson, Oxton, R.S.O., Berwickshire	...	do.
190.	Colonel Charles Hope, Cowdenknowes, Earlston	...	do.
191.	Francis Lynn, F.S.A. (Scot.), Livingstone Terrace, Galashiels	... ..	do.
192.	James Ferguson, Bailiffgate, Alnwick	...	do.
193.	David G. Simpson, F.R.A.S., 155 Widmore Road, Bromley, Kent	... ..	do.
194.	Hippolyte J. Blanc, F.S.A. (Scot.), A.R.S.A., 25 Rutland Square, Edinburgh	... ..	do.
*195.	George G. Butler, M.A., F.G.S., Ewart Park, Wooler	...	do.
196.	John Dent, Customs House Chambers, Newcastle	...	Oct. 9, 1895
197.	The Hon. and Rev. William Ellis, Bothalhaugh, Morpeth	... ..	do.
198.	Dr John C. J. Fenwick, Embleton Hall, Longframlington, R.S.O.	... ..	do.
199.	W. R. Heatley, 4 Linden Villas, Gosforth	...	do.
200.	Rev. James F. Leishman, M.A., Linton, Kelso	...	do.
201.	George Nisbet, Rumbleton, Greenlaw	...	do.
202.	Charles E. Purvis, Westacres, Alnwick	...	do.
203.	Rev. Arthur Pollok Sym, B.D., Lilliesleaf, St. Boswells	...	do.

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| 204. | David Veitch, Market Place, Duns | ... | ... | Oct. 9, 1895 |
| 205. | John A. Voeleker, B.A., Ph.D., B.Sc., F.L.S., F.C.S.,
F.I.C., 20 Upper Phillimore Gardens, Kensington, W. | do. | | |
| 206. | Walter Weston, Prudhoe Villas, Alwrick | ... | ... | do. |
| 207. | Rev. E. Arkless, Earsdon Vicarage, Newcastle | ... | ... | Oct. 14, 1896 |
| 208. | Rev. James Fairbrother, The Vicarage, Warkworth | ... | ... | do. |
| 209. | Francis Gayner, Oxshott, Surrey | ... | ... | do. |
| 210. | Lindsay Hilson, Kenmore Bank, Jedburgh | ... | ... | do. |
| 211. | Robert Mordaunt Hay, 5 Cumberland Place,
Southampton | ... | ... | do. |
| 212. | Samuel McVie, M.B., Chirnside, Berwickshire | ... | ... | do. |
| 213. | Rev. John Reid, M.A., Foulden, Berwick | ... | ... | do. |
| 214. | Alexander Steven, Stecarven, Berwick | ... | ... | do. |
| 215. | William Charles Steadman, Abbey Green, Jedburgh | ... | ... | do. |
| 216. | Henry Wearing, 28 Rowallan Gardens, Partick,
Glasgow | ... | ... | do. |
| 217. | William Bertram Swan, Auctioneer, Duns | ... | ... | Oct. 13, 1897 |
| 218. | Edward J. Wilson, Schoolhouse, Abbey St. Bathans | ... | ... | do. |
| 219. | Adam P. Scott, Banker, Amble | ... | ... | do. |
| 220. | Jas. Alex. Somervail, Broomdykes, Chirnside | ... | ... | do. |
| 221. | Arthur Giles, F.R.S.G.S., 107 Princes Street, Edinburgh | ... | ... | do. |
| 222. | Rev. R. C. Inglis, Berwick-on-Tweed | ... | ... | do. |
| 223. | Richard H. Simpson, West View, Alwrick | ... | ... | do. |
| 224. | Henry Paton, M.A., 120 Polwarth Terrace, Edinburgh | ... | ... | do. |
| 225. | J. A. Harvey-Brown, Dunipace, Larbert, Stirlingshire | ... | ... | do. |
| 226. | Robert Fitzroy Bell, Advocate, Temple Hall,
Coldingham | ... | ... | Oct. 12, 1898 |
| 227. | James William Bowhill, 22 St. Andrew Square,
Edinburgh | ... | ... | do. |
| 228. | Nathaniel Thomas Brewis, M.D., F.R.C.P.E.,
23 Rutland Street, Edinburgh | ... | ... | do. |
| 229. | Arthur Ellson Davies, M.D., West Savile Road,
Edinburgh | ... | ... | do. |
| 230. | William Dunn, Redden, Kelso | ... | ... | do. |
| 231. | James Lewis Greig, Advocate, Eccles House, Kelso | ... | ... | do. |
| 232. | Captain David William Milne Home of Wedderburn,
Caldra, Duns | ... | ... | do. |
| 233. | John Hepburn Milne Home, 38 Bowmont Street, Kelso | ... | ... | do. |
| 234. | James Marr, M.B., C.M., Greenlaw, Berwickshire | ... | ... | do. |
| 235. | Robert Middlemas, junr., Lovaine Terrace, Alwrick | ... | ... | do. |
| 236. | Andrew Riddle, Yeavinger, Kirknewton, Alwrick | ... | ... | do. |
| 237. | Humphrey John Wilyams, Bardale, Alwrick | ... | ... | do. |
| 238. | George Hartley Ballard, M.Sc., Grammar School,
Berwick-on-Tweed | ... | ... | Oct. 12, 1899 |
| 239. | Walter Cochrane, Fairfield, Kinnear Road, Edinburgh | ... | ... | do. |
| 240. | Adam Darling, Bondington, Berwick-on-Tweed | ... | ... | do. |

241.	John Grey, Manor House, Broomhill, Acklington	Oct. 12, 1899
242.	Major Wm. Henry Maxwell, Stopford Heron, Teviot- bank, Hawick	do.
243.	George Fraser McNee, Hawick	do.
244.	Ebenezer Beattie Mercer, Stow	do.
245.	James Millar, Solicitor, Duns	do.
246.	George Rankin, W.S., Lauder	do.
247.	James Romanes, Fordell, Melrose	do.
248.	Elliot Redford Smail, 16 Merchiston Crescent, Edinburgh	do.
249.	James Veitch, Inchbonny, Jedburgh	do.
250.	John Carlyle Johnstone, M.D., The Hermitage, Melrose	do.
251.	Lawrence William Adamson, LL.D., Linden, Morpeth	Dec. 20, 1900
252.	James Hewat Craw, Foulden W. Mains, Berwick-on- Tweed	do.
253.	A. H. Leather-Culley, Bamburgh, R.S.O.,	do.
254.	William Milliken, Swinhoe, Chathill, R.S.O.	do.
255.	Thomas Paulin, Tweed House, 95 Hampton Road, Forest Gate, London, E.	do.
256.	Andrew Smith, Whitchester, Duns	do.
257.	Andrew Thomson, F.S.A. (Scot.), Glendinning Terrace, Galashiels	do.
258.	Chas. E. Moore, Beaconsfield Terrace, Alnwick	do.
259.	Alex. Darling, Governor's House, Berwick-on-Tweed	do.
260.	William Currie, Millbank, Grange Loan, Edinburgh	Oct. 17, 1901
261.	Lady Elliott, Purvis Hall, Greenlaw, Berwickshire	do.
262.	Sir James Ranken Fergusson, Bart., Spittalhaugh, Peebles	do.
263.	George Graham, Berwick-on-Tweed	do.
264.	Francis Stewart Hay, Duns Castle, Duns	do.
265.	Captain Fullarton James, Stobhill, Morpeth	do.
266.	Rev. H. M. Lamont, Coldingham, Reston	do.
267.	George G. Napier, M.A., Orchard, West Kilbride	do.
268.	Alexander Murison Small, W.S., Collingwood, Melrose	do.
269.	Walter Arras, Beechwood, Melrose	Oct. 9, 1902
270.	John Carnaby Collingwood, J.P., Cornhill House, Cornhill-on-Tweed	do.
271.	John Taylor Craw, Whitsome Hill, Chirnside	do.
272.	Francis C. Crawford, 19 Royal Terrace, Edinburgh	do.
273.	John T. Dand, Hauxley Cottage, Acklington	do.
274.	Rev. D. Denholm Fraser, Sprouston Manse, Kelso	do.
275.	Mrs Hay, Duns Castle, Duns	do.
276.	Dr H. Hay, 19 Nelson Street, Edinburgh	do.
277.	Thomas Hodgkin, D.C.L., LL.D., Barmoor Castle, Beal	do.
278.	Rev. D. D. F. Macdonald, Swinton, Duns	do.
279.	W. B. MacKay, M.D., Berwick-on-Tweed	do.
280.	Miss Simpson, Bonardub, Coldingham	do.

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| 281. | W. Marchant, Weston Bank, Heston-under-Lizard,
Shiffnal | Oct. 9, 1902 |
| 282. | Patrick Smith, Sheriff Substitute for Selkirkshire,
The Firs, Selkirk | do. |
| 283. | The Right Hon. Lord Armstrong, Cragside,
Rothbury | Oct. 8, 1903 |
| 284. | Ralph Herbert Dodds, Murton Villa, Berwick-on-Tweed | do. |
| 285. | Gideon J. Gibson, Netherbyres, Ayton ... | do. |
| 286. | William Grey, Hide Hill, Berwick-on-Tweed ... | do. |
| 287. | Sir Hubert E. H. Jerningham, K.C.M.G., Longridge
Towers, Berwick-on-Tweed | do. |
| 288. | Thomas Greenshields Leadbetter, F.S.A. (Scot.),
Swinton House, Duns | do. |
| 289. | James Lyle, Waverley, Queen's Crescent, Edinburgh | do. |
| 290. | Rev. John Muirhead, B.D., Manse of Avondale, Strathaven | do. |
| 291. | John Ormiston, Newtown, St. Boswell's ... | do. |
| 292. | Howard Pease, Otterburn Tower, Otterburn, R.S.O. | do. |
| 293. | James A. Terras, B.Sc., 40 Findhorn Place, Edinburgh | do. |
| 294. | Dr W. T. Waterson, Embleton, Christon Bank, R.S.O. | do. |
| 295. | Dr Thomas F. S. Caverhill, 6 Manor Place, Edinburgh | Oct. 13, 1904 |
| 296. | H. H. E. Craster, Fellow of All Souls, Oxford ... | do. |
| 297. | Frederick Rous Newlyn Curle, Harleyburn, Melrose | do. |
| 298. | John Geddie, 16 Ann Street, Edinburgh ... | do. |
| 299. | David Graham, 7 Strathearn Road, Edinburgh ... | do. |
| 300. | Thomas Henderson, Fawside Lodge, Gordon,
Berwickshire | do. |
| 301. | William James Marshall, 40 Ravensdowne, Berwick-
on-Tweed | do. |
| 302. | Mrs Burn-Murdoch, St. Abb's, Coldingham ... | do. |
| 303. | James McWhir, M.B., C.M., Swinton, Berwickshire | do. |
| 304. | William Mark Pybus, 85 Osborne Road, Newcastle-
on-Tyne | do. |
| 305. | Rev. J. F. Scholfield, Cambridge House, Holy Island,
Beal | do. |
| 306. | Frederick George Skelly, Grosvenor Terrace, Alnwick | do. |
| 307. | Walter Miller Thorburn, Fordell, Melrose ... | do. |
| 308. | Robert Oakley Vavasour Thorp, Charlton Hall,
Chathill, R.S.O. | do. |
| 309. | Rev. Edmund Williams, The Glebe, Bamburg, R.S.O. | do. |
| 310. | Thomas Wilson, The Schoolhouse, Robertson, Hawick | do. |
| 311. | Rev. Norman McLeod Wright, Ancroft Moor, Norham-
on-Tweed | do. |
| 312. | Thomas Leslie Asher, 8 Whitehouse Terrace,
Edinburgh | Oct. 12, 1905 |
| 313. | William James Bolam, Commercial Bank, Berwick | do. |
| 314. | Miss Jessie B. Boyd, Faldonside, Melrose ... | do. |

315.	Richard Brown, C.A., The Hangingshaw, Selkirk	Oct. 12, 1905
316.	Charles W. Dunlop, Embsaykirk, Skipton-in-Craven	do.
317.	Rev. George Victor Dunnett, B.D., Manse of Cockburnspath	do.
318.	Rev. Percy Thomas Lee, Shilbottle Vicarage, Lesbury, R.S.O.	do.
319.	Edwin Arthur Mallet, Solicitor, 17 Quay Walls, Berwick-on-Tweed	do.
320.	John Henry Mansfield, Pasture House, Howick, Lesbury	do.
321.	Lieut.-Col. Charles Thompson Menzies, Kames, Greenlaw	do.
322.	Rev. Wm. Steven Moodie, Manse of Ladykirk, Norham	do.
323.	Harry Sanderson, Eastmount, Galashiels	do.
324.	John Paterson Taylor, Mungoswalls, Duns	do.

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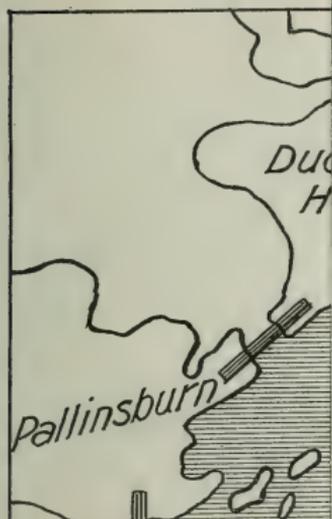
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Name.	Year.
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James Hardy, Esq.	1868
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Rev. George Selby Thomson, A.M.	1870
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16 JAN. 1907

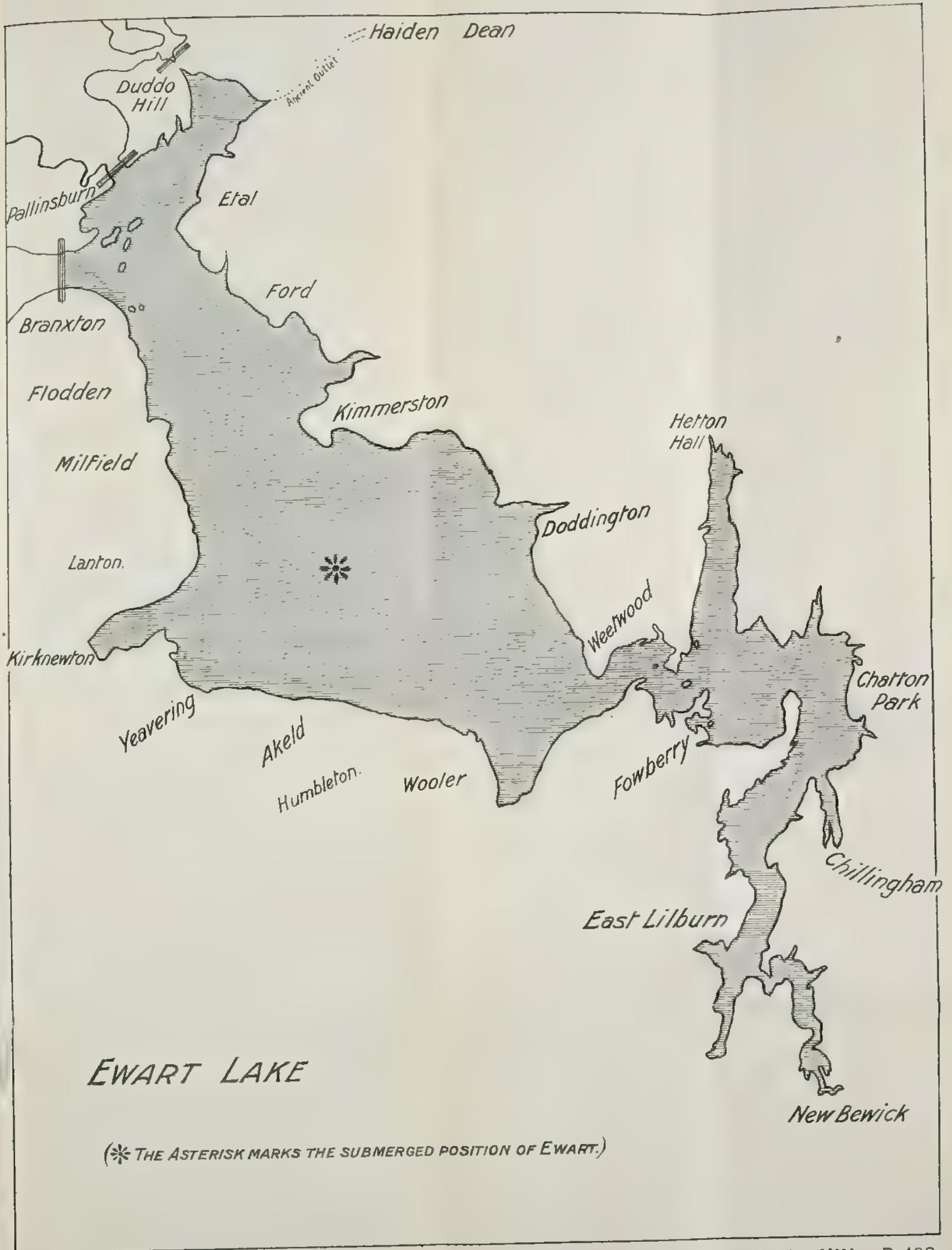


BERWICKSHIRE



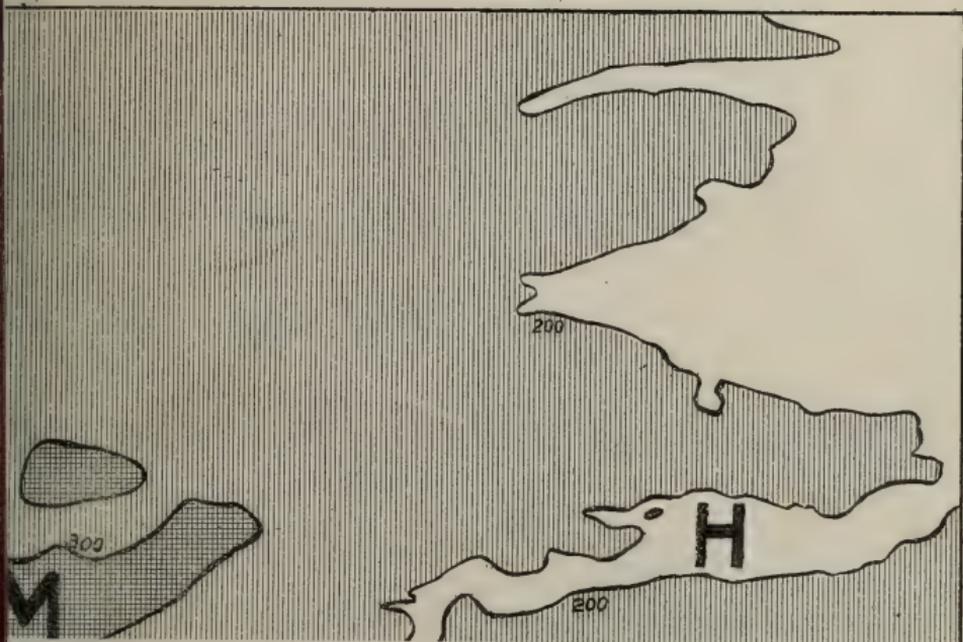
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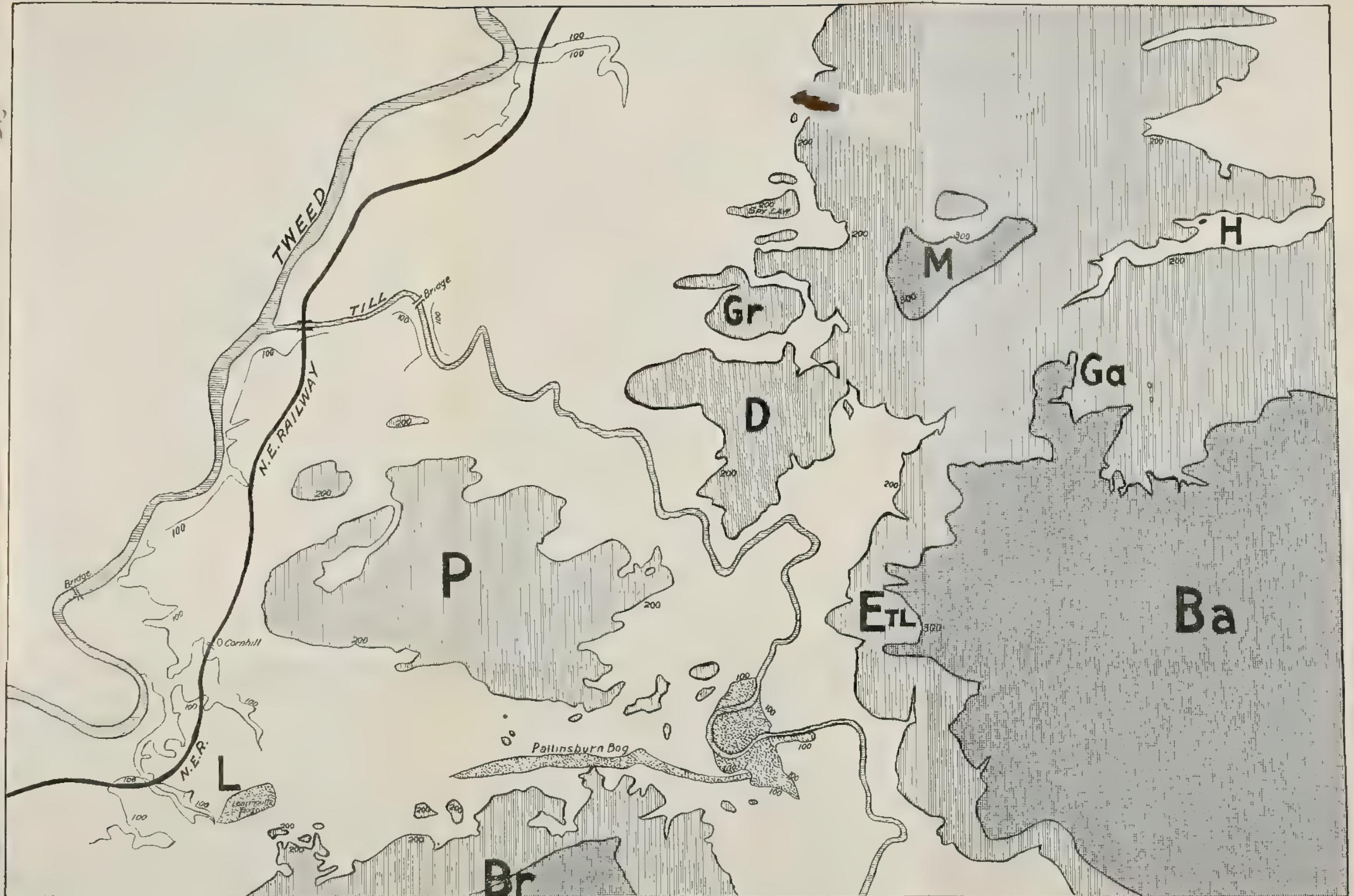
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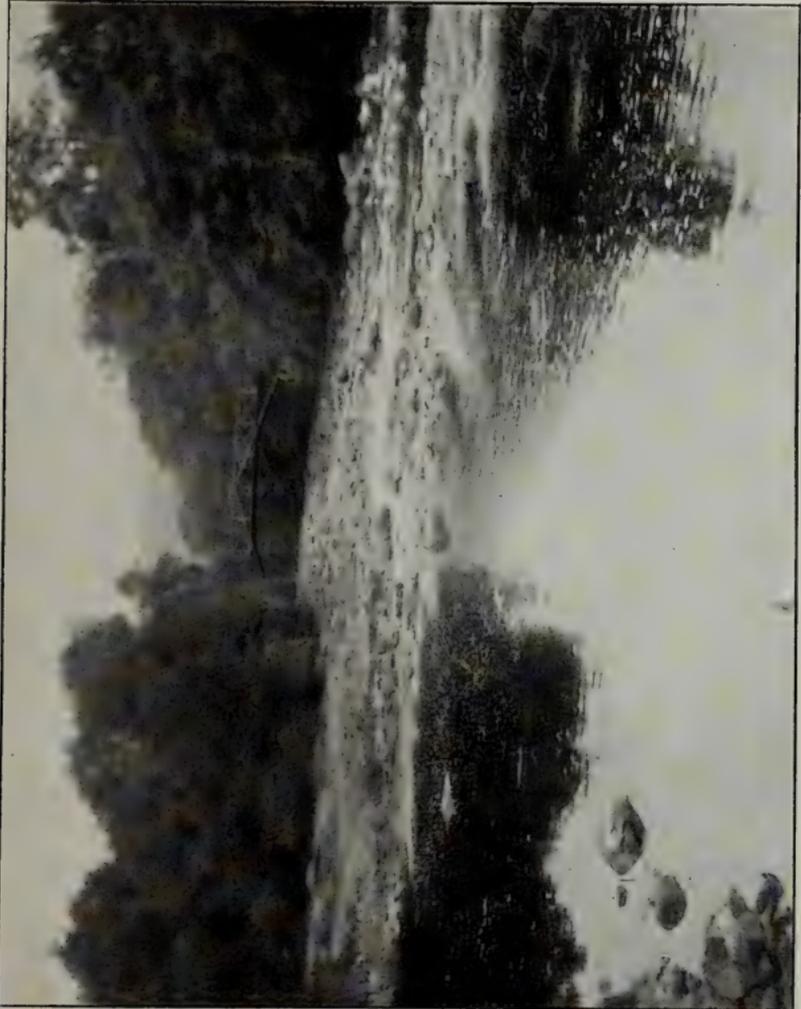


EXPLANATION OF THE SHADING
AND LETTERING.

-  BOG AND SWAMP
-  LAND OVER 200 FT.
-  LAND OVER 300 FT.
-  RIVERS

- Ba. BARMOOR MASSIF
- Br. BRANXTON MASSIF
- D. DUDDO HILL
- Etl. ETAL
- Ga GATHERICK

- Gr GRINDON RIDGE
- H. HAIDEN DEAN
- L. LEARMOUTH HOLLOW
- M. MATTILEES HILL
- P. PALLINSBURN MASSIF



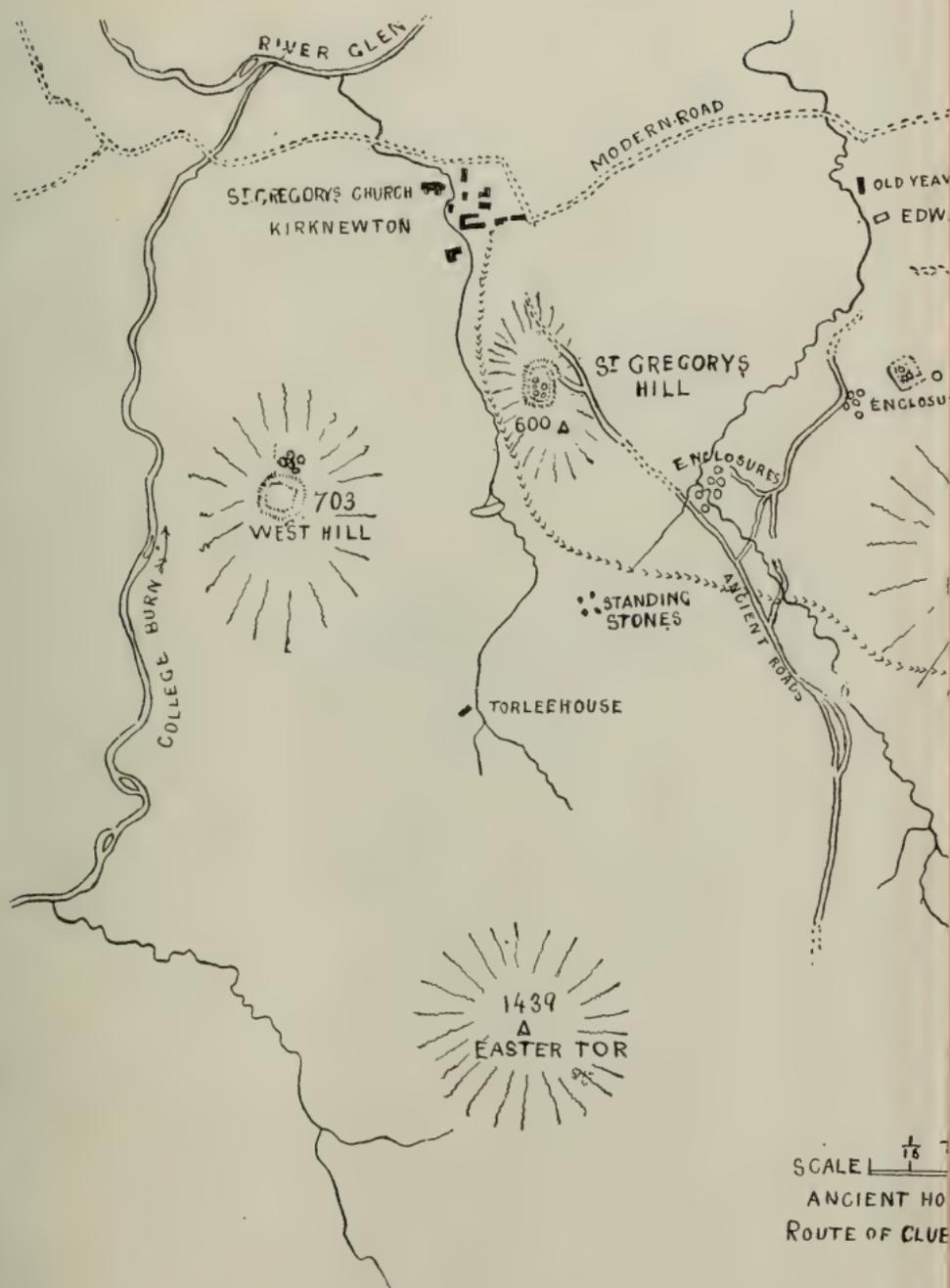
KIELDER CASTLE GROUNDS,
LOOKING NORTH.

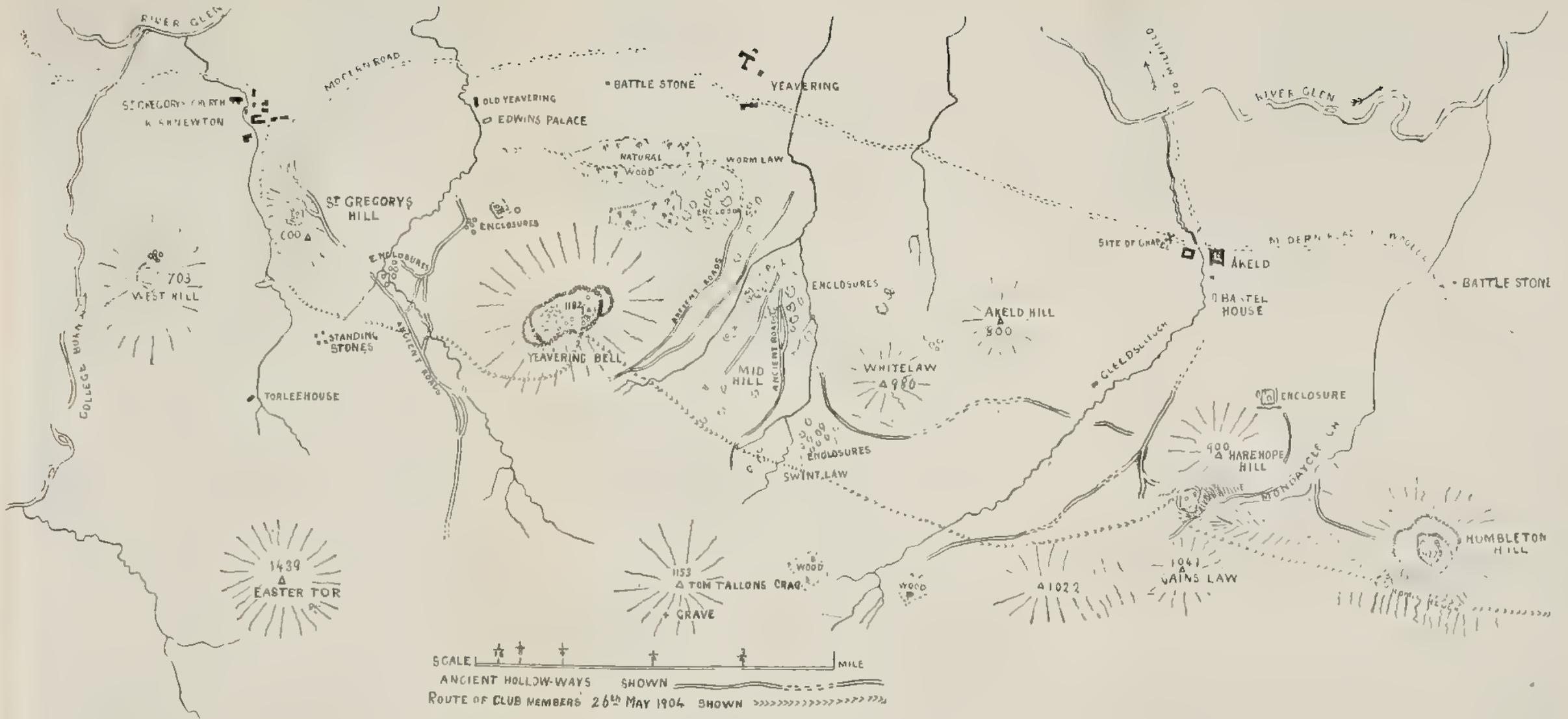




HAREHOPE FORT, HUMBLETON HILL.







ITINERARY FROM KIRKNEWTON AND YEAVINGING BELL, 26TH MAY, 1904.

Charles Prince of Wales &c. Regent of
 Scotland England France and Ireland and
 the Dominions therunto belonging
 To all his Majesty's Officers Civil or Military

These are requiring you to protect and defend
 the Estate house and effects of John Greigson
 in Wark in the County of Northumberland from
 all violence or injuries to be done against them
 by any person or persons whomsoever. Given
 at Kales the fifth day of November 1725.

By his Highness's Command

WARRANT OF PROTECTION IN FAVOUR OF
 JOHN GREIGSON, IN WARK,
 NORTHUMBERLAND.

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MEMBE

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PROCEEDINGS
OF THE
BERWICKSHIRE NATURALISTS' CLUB.

*Address delivered to the Berwickshire Naturalists' Club
at Berwick, 12th October 1905. By WILLIAM B. BOYD
of Faldonside, Melrose.*

LADIES AND GENTLEMEN,

The time has now arrived when it is necessary for me to retire from the honourable position to which you so kindly elected me last year; and I wish to express to all the members of the Club my deep and sincere thanks for all the kindness they have shown me during my occupancy of the chair. My special thanks are due to our two elected officials, that is, Captain Norman, R.N., our most careful and energetic Organizing Secretary, and the Rev. J. J. M. L. Aiken, B.D., our Editing Secretary, for all their help and advice, without which I should have been utterly helpless. The weather has been exceedingly favourable during all the meetings of the year, and the results upon the whole have been gratifying.

It used to be the custom, in the earlier life of the Club, for the retiring President to give an account of all the work undertaken during the currency of the year; but of late years this duty has devolved on the Editing Secretary, thus enabling the retiring President to devote more time in his Address to some special subject of interest to members. Now my difficulty has been to fix upon such a subject. I am really more of a Gardener than a Naturalist, so I have chosen a subject, which has not been studied or specialised, in connection with one of our commonest garden-flowers, that is, the beautiful little early-flowering snowdrop. This flower is a favourite with everyone, blooming as it does among the very first spring-flowers, often in February, always in March. It is a fancy with many that spring-flowers are the most appreciated and interesting, springing into life as they do so soon after the cold and dreary days of winter; and of these, none is more valued than the lovely white snowdrop. I may take it for granted that everyone is familiar with the habits and culture of the common snowdrop (*Galanthus nivalis*). Until about fifty years ago, hardly any other variety was known; but of late years a great impetus has been given to the study of this family, especially since the Snowdrop Conference held in London, in 1891, under the auspices of the Royal Horticultural Society. Both before and since that date, many most interesting species and varieties have originated, or been introduced in the culture of our gardens; but I propose to confine my remarks specially to those varieties grown in my own garden at Faldonside.

In the introductory portion of this paper I must draw very considerably on a paper written by Mr F. W. Burbidge, who is one of our greatest authorities on this subject, and well known to every one who takes an interest in choice flowers. It is somewhat doubtful,

he says, whether the snowdrop is indigenous in this country. Hooker in his "Student's Flora" tells us that the snowdrop is frequently naturalised in England and Scotland, "hardly in Ireland," and adds that it is possibly wild in Hertford and Denbigh. It is found, however, practically wild in many places where it has probably been a survival of old gardens of monastic and other establishments, where gardening was in vogue in long past ages. The plant seems more truly at home on the Continent, where it grows all through Southern and Central Europe, from the Pyrenees to the Caucasus, being to all appearance native. The Mediterranean regions, the Bosphorus and the Black Sea, with Asia Minor, appear to be its headquarters. The earliest known figure of a snowdrop is that of L'Obel, who gave a characteristic wood engraving in his "Stirpium Historia," published at Antwerp in 1576. This figure is *Galanthus nivalis*, our common snowdrop. Our own Gerard in 1597 uses this figure of L'Obel's, and also an engraving of a larger species which may have been *G. Imperati*, or possibly *G. plicatus*. Then Clusius, in his "Historia" of 1601, also uses these two figures, and tells us that the larger snowdrop came to Europe by way of Constantinople. The best account of the family generally is by Mr J. G. Baker of Kew in his "Amaryllidaceæ," where six species are described, the seventh, that is, *G. Fosteri* having been since described by him in the "Gardener's Chronicle."

As it would take up too much time to go through categorically all the different characters of the snowdrop, I must refer those who wish to obtain fuller information to this work by Mr Baker. I may mention in passing that his characters are chiefly drawn from the *flowers* and the markings on the *flowers*. Mr Burbidge, however, takes a different plan in arranging the characters of the species, and classifies them according to the *leaves*, and by this means he is

able to reduce his species to three, namely, (1) The strap-shaped glaucous leaf of the common snowdrop; (2) The much broader plicate or enfolded leaf of *G. plicatus*, readily known by its reduplicate marginal area; then (3) The broadly lorate, shining green leaf, such as those of *G. latifolius* and *G. Fosteri*. When once these types of leafage are recognised and understood, the specific identification of any known snowdrop becomes an easy matter. As thus tabulated one may see at a glance how important the *leaf* characters are in the study of snowdrops. Guided in some measure by these, which are far less variable than those of the *flowers*, Mr Burbidge says, "I am led to believe that the three species heading the columns of the above table really form the backbone of the genus *Galanthus*, and I should not feel at all surprised to find that all the other kinds of snowdrops known to us, could be obtained as hybrids or seedlings of these three main types." I must, therefore, refer you to Mr Burbidge's able paper, published in the "Journal of the Royal Horticultural Society," (vol. xiii., part 2,) for fuller particulars on this part of the subject.

A large number of varieties have arisen from the common *G. nivalis*, and one of the most beautiful is *G. Imperati*. It is more than double the size of the common form, and is very handsome when in flower. The plant came originally from Italy, and I believe it is to be found all along the European shores of the Mediterranean. The finest form is one known in gardens as *G. Atkinsi*, which I assume to be a selection from an importation made by Mr Atkins. This is an exceedingly fine form with broad sepals and a long drooping flower, much finer than the ordinary form of *G. Imperati*. The next finest is, I think, one that originated at Faldonside, and is now known as Boyd's variety. I will only quote what Mr

Burbidge says of it—"This is one of the finest of all the snowdrops, a flower from Mr Smith, Newry, sent to me in February of this year, having sepals one inch and a half long, and very broad with a fluted surface." This bulb was a seedling raised by me at Faldonside from the ordinary form of *G. Imperati*. It is a free grower, and is much larger than its parent. Mr James Allen of Shepton Mallet is a very keen propagator, and has raised some very fine seedlings from *Imperati* also, one of his very finest, named "Charmer," being a lovely flower; but in my soil it is of feeble growth. "Galatea" is another. This I find a hardier variety, but rather low growing. Mr Allen says that he has never been able to decide whether this or "Charmer" is the more perfect flower. I have another of Mr Allen's seedlings called "Magnet," which I like very much, as it is a free grower. It is a tall growing variety, and frequently produces two flowers from one stalk, the pedicels being unusually long, which gives to it the appearance of a much more drooping habit. *G. Melvillei major* was raised by Mr Melville, Dunrobin Castle, and is also a fine flower of the same type. This was a favourite seed-bearing plant with Mr Allen, and from it some of his finest seedlings were raised, "Magnet" being among the number. These I have mentioned are, I believe, some of the finest flowers that have been raised from *G. Imperati*.

There is another section of *G. nivalis*, which goes under the name of autumn-flowering snowdrops. The earliest of these to flower is *G. Octoberensis*, and all of this section have been found wild in Albania, Corfu, or on some of the mountains of Greece. They are, as a rule, delicate plants, and require a great deal of care and attention to keep them in good health. The first of these was *G. Octoberensis*, which was found by Lord Walsingham when travelling in Albania. He had collected some bulbs on one of the mountains, and sent

them to the late Rev. H. Harper Crewe. Among these was a bulb which proved to be a snowdrop flowering in autumn, usually in October. Mr Harper Crewe mentions that this snowdrop was found near Scorfitza, or Conchi, in Albania, some fifty or sixty miles North of Corfu. I quote Mr Allen's remarks on this variety:—"The first bulb Mr Harper Crewe had to spare he sent to me; and it has always been true to its autumnal habit of flowering. I am sorry to say that it is somewhat delicate and apt to disappear. It also increases very slowly with me. In Mr Boyd's garden at Faldon-side, it seems quite at home, a single bulb having given five blooming roots the first year after planting. Mr Boyd recommends that the snowdrops belonging to this section, should be lifted directly the foliage dies down, and not replanted for two or three months." This opinion was given in 1890, but I have had reason to considerably modify my opinion since then, as I find now that this plant is exceedingly difficult to manage and keep. In spite of all the care and attention possible, it has died out with me not only once, but several times; and I find that all these autumn-flowering varieties have a tendency to become later and later in their time of flowering, and I believe if they could be kept in health they would ultimately revert to the normal time of flowering in this country. When Professor Mahaffy, Dublin University, was travelling in Greece in 1886, he collected a quantity of bulbs and tubers on Mount Hymettus, which he sent home to Mr Burbidge. One of these bulbs proved to be a snowdrop flowering in October and November. This variety is called *G. Rachelæ*, and is of the same type as *G. Octoberensis*. It seems to have a slightly stronger constitution than that variety. It also differs in being a week or ten days later in flowering. Mr Allen says "that a gentleman residing in Corfu kindly sent me by parcel post some bulbs, then in flower, of

a rare early snowdrop which grew on one spot only on the island. The rootlets of the bulbs dried up in transit, and the flowers were much withered; but I could distinguish considerable variation in the size and markings of them, and in the character of the foliage. A large proportion of these bulbs died, but more than a dozen have given flowers this spring, but they have not bloomed early, which I attribute to their trials, as they had virtually made a second growth last season. My kind correspondent informed me that the ordinary snowdrop of the island blooms in January." This plant has been called *G. Corcyrensis*, and usually flowers from the middle to the end of December, according to the mildness of the season. It is evidently a form of *G. nivalis*, small in size and delicate in constitution. Being the connecting link between the autumn-flowering and spring-flowering kinds, it is valuable, and well worth the extra care required in its cultivation. The late Mr Harper Crewe also received the same variety from the English Chaplain at Corfu. Mr Max Leichtlin also informs me that he has raised some seedlings from *G. Corcyrensis*, which bloom a month earlier than their parent, and in some of these the form of the bloom is quite changed, the petals being very narrow, and one and a quarter inches long, a feature which they have maintained for two seasons. I find this *G. Corcyrensis* a very delicate plant indeed, even more so than *G. Octoberensis*. It has, however, the peculiarity of nearly all the other autumn-flowering sorts, of having a broad white band up the centre of the leaves. The last of those that I have tried to grow is one called *G. Elscæ*. This was found among some bulbs collected in 1889 on Mount Athos, in Greece, by Dr Mahaffy. Mr Burbidge sent one of them to me, which opened its flower on 17th December. It is a dwarf variety with small flowers of good form, but it is quite as delicate and tender as any of the others of this section. From these

remarks you will see that it is quite possible to grow autumn-flowering snowdrops in this country, but you will find that they will require great care in their cultivation to produce this result.

I now come to what are called white snowdrops.

There is really only one perfectly white snowdrop. This is *G. pocoliformis*, and it is a very handsome plant when in its best form. The difference in this plant is that the inner petals are extended to more than twice the usual length, and all the green markings are removed. The flower when open in the sun has quite a different appearance from the ordinary form, in that it shows no short petaloid centre, but both petals and sepals are nearly the same length. Mr D. Melville, Dunrobin Castle, first brought this variety into notice, having found it in the grounds there. This is by no means an uncommon variety, as I have found it in many gardens, but there seems a number of shades in the quality of the flower. The finest and most perfect form which I have seen I received from Sir George Douglas. It was found growing in the woods at Springwood Park. I also got another very fine form from Mrs Grey, Milfield, where it was growing in great luxuriance in her garden. There is no difficulty in cultivating it, as it grows as freely as the common snowdrop, and I think everyone who is fond of snowdrops should make a point of stocking some of these.

Now we come to *G. Elwesei*. This variety belongs also to the *nivalis* section, if we judge it

Galanthus from the shape and colour of its leaves.
Elwesei. All the first introduced forms of *G. Elwesei* had strap-shaped leaves with a glaucous colouring. The flower markings, however, in this variety are different from those of *G. nivalis*, in having a large green spot at the base of each of its petals. Many think that this difference should constitute a distinct

species. *G. Elwesi* is, moreover, a variable plant. Some have small flowers, while others are the giants of the snowdrop family. Their native country is Asia Minor. It is an exceedingly handsome and showy variety, but I do not think it will ever take the place in this country of *G. nivalis*, as it seems to refuse to be naturalised. There are several good forms of this plant, such as "Cassaba," which has very upright, thick, and long leaves; and *G. Elwesi globosus*, a very robust and sometimes two-flowered globose form. The largest of all, however, is the last introduced, *G. Whittalli*, so called after its discoverer. I will mention another fine variety when I come to speak for a few minutes on the so-called green snowdrops. I notice in Mr Nicholson's article on this subject, in his "Dictionary of Gardening," that he also states that there are only three species of snowdrops; but he makes *G. Elwesi* one of the three, the other two being *G. nivalis* and *G. plicatus*, the Crimean snowdrop, thereby absorbing Mr Burbidge's third species with broad lorate green leaves, such as *latifolius*, *Fosteri*, and *Icaria*, into *G. nivalis*. It will thus be seen how difficult it is to make all the varieties fit into the three species that are dependent on the character of the leaves alone. In all the circumstances it seems prudent to leave this matter for some more experienced botanist to solve, and in the meantime to confine oneself to noticing a few of the more interesting and beautiful forms which occur in our gardens.

The second species is *G. plicatus*, the Crimean snowdrop. This has a very distinct leaf with a longitudinal fold on both sides near the edge, and the leaves are also glaucescent like those in the *G. nivalis* section. I hear many complaints from snowdrop growers, that this species has a curious habit of dying off without apparent cause. This, however, is not my experience. There are some forms of it certainly that are rather *miffy*,

but I find as a rule that it does well in my garden, and is not nearly so much given to dying off as *G. Elwesei*. There is a garden at Chapel, in the valley of the Leader, near Earlston, where this species thrives luxuriantly. The soil is a heavy clay, not such as one would naturally suppose Crimean snowdrops would grow well in; nevertheless, I have measured clumps of from two to three feet across, of a very fine form of this plant. It is one of the most vigorous I have tried, and is known now in cultivation under the name of *G. Chapeli*. Mr Allen has raised a large number of very good seedling forms of this plant, one especially, which he called "Dragoon." This is certainly one of the earliest and also most beautiful snowdrops in my garden. This species, like all the rest, varies much in the shape of the leaf. Some are long and narrow; others, like *G. Chapeli*, are short and broad; but all have the plicate leaf. A few years ago there was introduced from the shores of the Bosphorus what was thought to be a new species, under the name of *G. Byzantinus*, which appears to be intermediate between *G. plicatus* and *G. Elwesei*, and it is more than likely that it is a natural hybrid between these two species.

The third, and last, species includes all the snowdrops with broad green leaves, among which are
Galanthus to be found several fine forms. The one
latifolius. which is perhaps best known by name is
G. latifolius, but with me it is very
 unsatisfactory. I have bought bulbs and planted them many times, but I have never yet succeeded in establishing one healthy clump. There are, however, other two which I would like to say a good word for, namely, *G. Fosteri* and *G. Icaria*. Before going further, however, I may mention a variety of *G. latifolius*, which does not deserve the bad character of its progenitor. This is one called *G. Alleni*, which originated in a bulb selected by Mr Allen from an importation of the latter,

which is really a hardy variety and thrives well with me. Both the bulb and the leaves are larger than in *G. latifolius*, and the flower is of the very first quality. Mr Baker thinks it is probably a hybrid between *G. latifolius* and *G. Caucasicus*, as it has some of the features of both species. This variety is a great favourite both with Mr Allen and everyone who has cultivated it, as it is a good grower, and very handsome when in flower. *G. Fosteri* was introduced from Amasia, in Asia Minor, by Sir Michael Foster, Cambridge University, and was named out of compliment to him by Mr Baker, to whom specimens were sent in 1889. Mr Allen speaks of it in these terms—"It first bloomed with me in 1891, and I must confess it did not come up to my expectations; but I think it is scarcely fair to pass judgment on it before it has been grown in our gardens for some four or five years, so as to develop its true character. The collected bulbs which were planted in January 1890 had almost lost their vitality, and will require several years to recover their strength. I understand that in favoured spots of their native habitat the bulbs of *G. Fosteri* are as large as a good sized Narcissus. This seems to be the most sportive of all the *Galanthi* as to size, form, and markings of the flowers. From the comparatively few bulbs I have already bloomed, I have had flowers with petals of every imaginable shape, some showing points of great beauty, and others quite the reverse. We must be patient, and weed out unsparingly, and then in a few years we shall be proud of *G. Fosteri*." The markings on the inner petals are very similar to *G. Elwesei*, but the foliage is quite different, being broad and somewhat blunt, and the shape and colour much like that of *Scilla Siberica*. Mr Max Leichtlin thinks so highly of it that he pronounces it the King of snowdrops. This plant seems to me to be a hybrid between *G. Elwesei* and *G. latifolius*, although I am told that *G. Elwesei* is

not found in the same district. I have been fortunate in getting a good form of *G. Fosteri*, and I find it in my garden a satisfactory plant, though an exceedingly slow grower. There is a very nice variety of this, which I shall mention when speaking of green snowdrops, which in the garden behaves itself very much as *G. Fosteri* itself. The last, and by far the finest, of the broad green-leaved snowdrops is *G. Icariaë*. This was introduced a few years ago from the island of Icaria, by Mr Edward Whittall, Smyrna, a gentleman who has been the means of introducing a large number of early spring-flowering bulbs from the Taurus and Anti-Taurus mountains (where they seem to grow in great profusion), such as Scillas, Chionodoxas, Chionoscillas, Fritillarias, Tulips, Croci, and many others. This *G. Icariaë* is a very handsome plant, but not a tall grower. The flowers are large, and the leaves very broad, and of a very brilliant green colour. It seems a good grower, and thrives exceedingly well in my garden.

I will now draw my remarks to a close with a few words about some of the more curious **Yellow-spotted Snowdrops.** (though many of them are very beautiful) forms to be found in the best collections. Among the most beautiful of this class are the yellow-spotted snowdrops, and these, I think, will be of special interest to the members of this Club from the fact, that nearly the whole of them have been found in Northumberland, and within the district to which the operations of the Club extend. *G. lutescens*, the first to be found, was discovered, I believe, at Fowberry Tower; or in some of the cottage gardens at Chatton. There it grows in considerable quantity in old grass lawns, mixed with *G. nivalis* (of which it is undoubtedly a variety), and must have been growing there for many years. The second discovery was made in an old cottage garden in the village of Whittingham by myself, with the assistance of Mr Joseph Oliver, at

that time head-gardener at Eslington Park. This variety, however, seems to have had a different origin from the Fowberry Tower form, in that it is a stronger growing plant, with a better constitution and rather brighter coloured flower. This has been named *G. flavescens*. The third place where the same form was discovered was Howick Hall, by Miss Grey, a cousin of the present Earl Grey; and this form, I think, cannot be said to differ materially from the one found at Whittingham. The two latter forms are both better growers, better coloured, and of a better constitution than that found at Fowberry Tower, and are all very handsome plants when grown in the garden; but they will require more care and attention and a lighter soil than the common snowdrop, as they are more delicate plants. The difference between these varieties and the common snowdrop is the entire conversion of all the green markings on the flower, as well as the ovary, and partially of the flower stem, into a rich golden yellow colour, which has the effect of making the flower a very handsome one when seen at its best. Within the last five or six years there has been discovered a very fine double golden variety near Crewe. This plant is the exact counterpart of the three single golden spotted varieties just mentioned, except that the flower is perfectly double. I was fortunate in obtaining a bulb of this form from the owner, and I find it to be a strong and vigorous grower, much more so than the single golden varieties. It has a tendency to revert to the ordinary double in heavy clay soil, but on planting it in lighter soil the plant has returned again to its fine yellow colour, and still preserved its character as one of the showiest of this section. In 1904, however, the crowning discovery in the snowdrop family was made by Mr Oliver, in the shape of an altogether golden snowdrop. Like all the others it is a variety of *G. nivalis*, but with all the petals and sepals of a good golden

colour. I was not fortunate enough to see it when in flower in 1904, but if it comes up to the description given by its discoverer, it will be the most wonderful flower in the family. It was found growing in a large patch of *G. nivalis*, on the outskirts of a wood at Eslington Park, but on being removed from its original station with a view to being subjected to greater care, it must have received a check, as it failed to bloom in the spring of 1905. Mr Oliver, however, tells me that the plant made good growth later in the spring, and we hope to see it in all its beauty early in 1906. Since this last one was discovered, I have heard of another altogether yellow snowdrop flowering in the collection of Mr Whittall. No bulbs of this variety have as yet come to this country. Whether this is a variety of *G. nivalis* or *G. Elwesei* I do not know, but it is probably the latter, as *G. Elwesei* is by far the commonest snowdrop in that region. Since the above was written, I have had a letter from Mr Arnott, Dumfries, who tells me that he had just learned from Mr Whittall that, as he is changing some of his garden ground this year, he will be unable to send the promised yellow snowdrop bulbs till next summer.

The last of the curious snowdrops are what are usually called green snowdrops. The first of these to appear on the stage is *G. Green Snowdrops. virescens*, which seems also to be merely a variety of *G. nivalis*. Its history is not known, but it was found growing in the Botanical Garden at Vienna. On making enquiry of the officials at the garden, there seemed to be no record of its history. No one knew where it had come from, or how it came there. This is a very late flowering variety, and seems to come into bloom just as most of the earlier flowering varieties are over. When in flower, it is a very distinct looking plant, and is easily known from all others, having the sepals striped with green

at the base on the outside, and the petals entirely of a dark rich green, with the exception of a narrow white margin. Mr Allen has raised a number of seedlings from this variety, but nothing of exceptional merit has appeared. Most of the seedlings were very like the parent, although the markings on the sepals were scarcely so dark in the green colour. I find also that this is stronger in growth than many of the other curious varieties. *G. Scharloki* (Caspary) is a very distinct variety of *G. nivalis*, having large twin-spathes of leafy texture, and small flowers marked with greenish lines near the apices of the sepals. It is easily recognised by the large leafy twin-spathe, and by its outer sepals being marked with three to five suffused lines near their apices, and the inner petals having a bold green delta with a pyramidal point over the sinus. No two spathes are quite alike. Sometimes they split at the base and recurve; at others they are wholly, or in part, united along one of their edges. This was named by Professor Caspary, Koënigsberg, in compliment to M. Scharlok of Grandenz (a keen explorer of the botany of Prussia), who discovered this twin-spathed or leafy-spathed form growing wild in some copses of Western Prussia, where it may still be found. *G. Warei* is a form or phase of *G. Scharloki*, but the spathe lobes are coherent. It has the same marks on the outer sepals as in *G. Scharloki*, and was called *Warei* from the fact of its appearing among an importation of *G. Scharloki* belonging to that gentleman. The next in this section is a very curious form of *G. Fosteri*. This appeared among a small number of bulbs of *G. Fosteri*, which had come to Mr Allen, by whom it was named *G. Fosteri* "Leopard," and regarded as a great curiosity, having flowers of quite unusual shape, and at the tip of each outer sepal a large dark green spot in the style of *Leucojum vernalis*. The last of this section which I have growing is a variety of

G. Elwesei "Cassaba," named *Boydii*. It was a selection from a number of bulbs of "Cassaba." It is quite different from the type, and comes under the section of green snowdrops. The stock was raised from one bulb which showed a large green spot on the outer sepals, and the petals are entirely green, with the exception of a narrow white margin. The flower is very large, and has the same upright habit as "Cassaba" itself. A very curious novelty in this class appeared a few years ago in the garden of Miss Russell, Ashiestiel, in the shape of a double-flowered green seedling. Miss Russell kindly gave me a bulb of this variety last year, which flowered well with me, and was exhibited in flower at the April meeting of the Botanical Society of Edinburgh. This is a very curious flower, somewhat after the manner of *G. poculiformis*, but quite double, and having all the petals and sepals of a distinct green colour; and the petals are nearly all of the same length as the sepals. It is a free bloomer, and seems to have a good constitution. It is, of course, more curious than beautiful; and it has this strange peculiarity, the pedicel, which in all other snowdrops bends over and allows the flower to droop, in this case stands erect. In fact, at first sight one would hardly believe it was a snowdrop at all. This plant must have been a seedling direct from the common *G. nivalis*, as no green snowdrops are known to have been growing in Miss Russell's garden. The stock consists of six or seven bulbs, which have all been produced from the one seedling during the last few years. I may mention that the garden and grounds at Ashiestiel are among the few places in our part of the country where snowdrops come up freely from self-sown seed, and the soil is a heavy clay. This is all the more remarkable, since in my own garden at Faldonside, where the soil is very similar, and a great number of varieties are grown, I very rarely see a self-sown seedling from a snowdrop. This is, of course, another novelty

in this family, which has originated within the district of the Berwickshire Naturalists' Club, and is quite unique, as nothing like it has ever been seen before. Here my enumeration of the snowdrop family must take end. I have not mentioned nearly all the different sorts, but principally those showing the most distinctive characters, and those of greatest beauty in the garden. I am only sorry that it is not possible to exhibit flowering specimens at this season of the year, as, could this have been done, it would have made my dissertation much more interesting.

The sad duty still remains to me to announce the names of members of the Club who have died during the year now closed, namely:—

Obituary of the Year. Mr James Smeall, Castlewood, Jedburgh; Mr Thomas J. Graham, The Avenue, Berwick; Mr James Smail, F.S.A. (Scot.), Edinburgh, who held the office of President of the Club in 1899; Mr W. Grant Guthrie, Hawick; Mr C. B. P. Bosanquet, Rock Hall, Alnwick; Mr J. L. Newbigin, Alnwick; Captain J. A. Forbes, R.N., Berwick; and Mrs Wood, Woodburn, Galashiels, widow of Mr James Wood, Earlston, long an active member of the Club.

It falls to me also to nominate my successor in the chair, and I have great pleasure in submitting with confidence the name of Mr John Crawford Hodgson, F.S.A., Alnwick, who by his literary gifts has already attained eminence in the department of historical research, and by his diligence in tabulating, at the request of the Club, the manuscripts of the late Dr Hardy which came into their possession, has earned the grateful acknowledgment of its members.

*Reports of the Meetings of the Berwickshire Naturalists'
Club for 1905.*

EDINBURGH.

THE FIRST MEETING of the year was held in Edinburgh, on Wednesday, 17th May, for the purpose of visiting the Royal Botanic Garden, the Royal Scottish Museum, and the vicinage of Arthur's Seat. The day being beautifully fine, a large number of members and guests assembled, among whom were noted:—Mr Wm. B. Boyd, Faldonside, President; Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, B.D., Editing Secretary; General J. J. Boswell, C.B., Melrose; Colonel A. M. Brown and Miss Brown, Longformacus; Mr Thomas Craig-Brown, Selkirk; Rev. J. Burleigh, Ednam; Mr George Grey Butler, Ewart Park; Mr John Caverhill, Jedneuk; Dr David Christison, Edinburgh; Mr C. L. Stirling-Cookson, Renton House; Rev. Charles J. Cowan, B.D., Morebattle; Mr J. Hewat Craw, West Foulden; Mr P. J. Dickson, Creaghmor, Aberfoyle; Mr A. M. Dunlop, Crawford; Mr Stuart Douglas Elliot, Edinburgh; Mr William Evans, Edinburgh; Major James Farquharson, Edinburgh; Captain Forbes and Miss Forbes, Berwick; Mr John Geddie, Edinburgh; Dr R. Shirra Gibb, Boon; Mr Arthur Giles, Edinburgh; Mr J. G. Goodchild, Edinburgh; Mr David Graham, Edinburgh; Mr W. R. Heatley and Mrs Heatley, Newcastle; Sir Archibald Buchan Hepburn, Bart., Smeaton-Hepburn; Mr George Henderson,

Upper Keith; Mr J. C. Hodgson, Alnwick; Rev. Joseph Hunter, Edinburgh; Mr W. H. Johnson, Edinburgh; Mr James Lyle, Edinburgh; Mr James Millar, Duns; Misses Milne Home, Paxton; Mr A. N. McDougal, Duns; Rev. David Paul, LL.D., and Mrs Paul, Edinburgh; Mr Andrew Riddle, Yeavinger; Mr James Romanes, Selkirk; Mr T. B. Short, Berwick; Miss Simpson, Coldingham; Mr Jas. A. Somervail, Hoselaw; Captain George Tancred, Weens House, Hawick; Mr George Tait, Warkworth; Mr Edward Thew, Warkworth; Mr John Turnbull, Galashiels; Mr William Weatherhead, Berwick; Mr John Wilson, Edinburgh; and Mr Joseph Wilson, Duns.

The rendezvous was fixed for eleven o'clock at the Royal Botanic Garden, Inverleith Row, where the members were received by Professor I. Bayley Balfour, M.D., Regius Keeper of the Garden, and by his Assistants, Dr A. W. Borthwick and Mr W. W. Smith, M.A., who along with Mr H. F. Tagg, F.L.S., Curator of the Museum, Mr J. F. Jeffrey, Curator of the Herbarium, and Mr R. L. Harrow, Head Gardener, exerted themselves in describing and drawing attention to the many rare and interesting treasures under their charge. This being the Club's first official pilgrimage to the Scottish Mecca of floriculturalists, it may not be out of place to say something regarding its origin and history. Formed in 1824, when the old Physic Gardens at the foot of the Calton Hill were abolished, the Royal Botanic Garden and Arboretum embrace an area of more than 57 acres, and contain an extensive range of greenhouses, palm-houses, stove-houses, and other necessary adjuncts for the study of the flora of other climes and countries. The Arboretum, thrown open to the public in 1881, is more especially devoted to the cultivation of forest-trees, and to the encouragement of scientific methods of afforestation in Scotland. The earliest attempt at a garden of this order was made by Dr Andrew Balfour, an eminent physician and botanist, who was born in 1630, and graduated in medicine at St. Andrews. In 1667 he began to practice in that town, but afterwards removed to Edinburgh in 1670, where in a portion of ground attached to his residence he originated a collection of plants, raised from seeds provided

by foreign correspondents; and aided by the collection of a pupil (Mr Patrick Murray of Livingston, West Lothian), he, in the same year, instituted in a portion of the garden surrounding Holyrood House the first Botanic Garden in Scotland, being the second existing in Great Britain. In 1676, through the helpful interest of the Magistrates of the City, there was conceded a part of the Trinity Garden adjoining the College Church for the formation of a Physic Garden, and over both of these was appointed James Sutherland to be "Intendant." Still later, in 1702, another Botanic Garden was established in Edinburgh in the neighbourhood of the College Buildings. Thus in the early years of the eighteenth century the City of Edinburgh could boast of the possession of three distinct Botanic or Physic Gardens—the Royal Garden at Holyrood, the Town's Garden near Trinity Hospital, and the College Garden in the grounds of the University. From being severally under the care of the said James Sutherland, who in 1683 published his "*Hortus Medicus Edinburgensis*," these three gardens were afterwards separated and committed to the charge of rival custodians, and so continued for upwards of a quarter of a century; but in 1724, when the College Garden on account of dilapidation was converted to other uses, and the office of custodian of the Town's Garden became vacant, they were again united through the appointment by the Town Council of the Keeper of the Royal Garden and the Regius Professor of Botany in the University to fill the vacancy. In 1763 an attempt was made to secure a site in the neighbourhood of the Meadows on which to amalgamate the Gardens; but this being found impracticable, they were removed to ground on the North side of Leith Walk, where they continued till 1820, when Robert Graham, King's Botanist, selected the property of Inverleith as a more suitable situation, and purchased through the Barons of the Exchequer 14 acres of the field known as Broompark and Quacaplesink. Gradually, during the Keepership of Prof. John Hutton Balfour, additions were made to the ground already acquired, till in 1876, through the purchase from the Fettes Trustees of over 27 additional acres by the Town Council for the laying out of an Arboretum, the Garden assumed its present spacious proportions.

From the date of its foundation the Botanic Garden has been utilised by the Professor of Botany for the teaching of his students, and thus its adaptation to this end has determined in some measure the manner of its arrangement. On the right of the entrance from Inverleith Row stand the Museum, Laboratories, and Lecture-hall, and immediately in front of these are laid out extensive Herbaceous Borders, the plants being arranged for study in their Natural Orders. To the North of this collection is situated a Central greenhouse, from the sides of which are extended two wings, running East and West, from which are projected four Plant-houses, the outermost devoted to plants of Dry Regions, including Cacti and Euphorbias; the next containing Economic plants of both Tropical and Temperate Regions, such as coffee and medicinal herbs; the first on the West side of the main building reserved for Orchids, and the last in this division being apportioned to plants of Tropical and Warm Regions. In the Entrance Porch to the building also is an interesting collection of Insectivorous plants. Behind the Western division there have been erected a handsome Temperate House for Tree-ferns and Coniferæ, and a domed Palm-house; and between these and the front range of glass stands a suite of houses containing Monocotylous plants of Tropical Regions, including Aroids, Scitamineæ, Liliaceæ and Amaryllidaceæ; also Pitcher Plants, Bromeliads, and others requiring a warm and temperate situation.

Owing to the prevailing sunshine, and in spite of the attractiveness of many splendidly flowered specimens indoors, the members were not loath to gain the fresh air, and saunter with the Professor and his staff through the Arboretum, reserved for the cultivation of trees and shrubs. During their walk, on a grassy slope near the eminence whence a fine panoramic view of the City of Edinburgh, flanked on the East by Arthur's Seat and on the West by the Pentland Hills, with the Castle Rock in the mid-distance, was obtained, they took special notice of a plot of *Cytisus præcox*, which at the time was in luxuriant bloom. Time did not permit of any extensive survey of

the fine collection of trees and shrubs arranged in classes throughout the rapidly filling Arboretum, but a considerable space was spent in the inspection of the Rock-Garden, decked as it was in all its early summer glory. On a raised border in front of the main rock-work a gorgeous patch of *Alyssum saxatile* var. *sulphureum* arrested attention, while behind it on the left there blossomed in rare luxuriance *Aubrietia deltoidea*, var. *Dr Mules*, and *Cerastium Alpinum*. Among plants situated on terraces and in shady nooks throughout the Garden (Plate XII.) were noted:—*Iberis saxatilis*; *Noccea alpina*; *Iberis carduchorum*; *Arabis purpurea* and *A. albida*; *Lychnis pyrenaica*; *Alyssum saxatile*; *Morisia hypogaea*; *Eritrichium nanum* and *Gentiana verna*, all in robust health and abundant flower, the drought to which they are usually exposed, and to cope with which an elaborate system of water-spraying has lately been devised, not having as yet arrested their vernal freshness. Many of the members would readily have lingered amid such floral attractions, but the fulness of the day's programme required them to beat a reluctant retreat to the Museum, where the President in behalf of the Club offered Professor Bayley Balfour a cordial vote of thanks for his obliging and instructive conduct of the party through the Garden.

The afternoon rendezvous was fixed for 2-15 at the Geological Gallery of the Royal Scottish Museum, where Mr J. G. Goodchild, F.G.S., Curator, had kindly agreed to explain the rearrangement of this section of the Museum, in which he himself had taken so conspicuous a part. The Collections made by the Geological Survey of Scotland are associated with the Museum Collection of Scottish Minerals in the Gallery on the upper floor of the West Wing of the Museum. This Gallery consists of two parts, a quadrangular Hall devoted to the exhibition of Scottish Minerals, and two Corridors containing the Collections made by the Geological Survey of Scotland. In accordance with an arrangement determined on by a former Director-General of the Survey in conjunction with the Director of the Museum, the Collection of Scottish Fossils is arranged in cases set against the railing on the inner side of each Corridor, while the Collection of

CORNER OF ROCK-GARDEN, ROYAL BOTANIC GARDEN, EDINBURGH.



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Scottish Rock-specimens, along with the maps and sections which these are meant to explain, are exhibited in wall-cases on the outer side of each Corridor. In the desk-cases along the walls a set of Geological Survey maps are exhibited in direct connection with specimens of the rocks themselves, which are arranged under their respective Counties. The principle followed in the arrangement of the specimens is largely chronological, in the carrying out of which each is numbered, and those rocks reckoned the oldest in the particular district are placed first and marked with the lowest numbers, while those regarded of later age follow in stratigraphical order and are numbered accordingly. To enable the enquirer to find readily the position on the map of any Rock-specimen in the Collection, an elaborate system of division into rectangles has been devised, a reduced copy of which is printed on the labels attached to the specimens, so that a coloured subdivision of the key-diagram forms a guide to the corresponding geological colouring on the maps, and to the geological and geographical positions of any rock of which the visitor may be in quest. The number of Rock-specimens exhibited in the wall-cases exceeds four thousand, and to these have to be added three thousand others, which are exhibited partly along with the maps in the desk-cases, and partly in the spaces beneath. In addition, and in order to convey an accurate idea of the weathered aspect of such rocks, as they would present themselves to any investigator on the spot, an interesting series of examples is displayed on a shelf beneath the maps. In arranging the Collection unnecessary duplication has been avoided by displaying each of the larger petrographical groups most fully under the particular district in which it happens to be typically developed, as, for example, the Silurian Rocks under Ayrshire, Lanarkshire, Peebleshire; and the Carboniferous Rocks under Fife and the Lothians.

The North Hall is almost entirely occupied by a large assemblage of the Minerals of Scotland, acquired partly by gift, and partly by purchase, and including nearly one hundred and eighty species.

Scottish Mineral Collection. During the past thirty years contributions by various collectors have been made, notably by

Mr Patrick Dudgeon of Cargen, Professor Heddle of St. Andrews, and Dr Wilson of Wanlockhead; but not till 1894 did the collection attain its present unique character through the presentation to the Museum of Dr Heddle's unrivalled collection, numbering upwards of eight thousand specimens. Since then the Scottish Minerals already in the Museum have been incorporated with these specimens into one collection, and classified and arranged by Mr Goodchild, partly under Dr Heddle's personal supervision. The Minerals are arranged in duplex series, those in the upright cases, which are lettered in white, being show-specimens for the instruction of the general public, and those in the flat cases, which are numbered in red figures, being arranged to meet the requirements of mineralogists and crystallographers. The plan of classification adopted in both is that employed in the last edition of Dana's "System of Mineralogy." While indebted for the above minute details of the arrangement of this department to Mr Goodchild's own description supplied in two pamphlets published by the authority of the Director of the Museum, we recall his own interesting and enthusiastic explanation of the same to the members of the Club, and his lucid reference also to small models to scale of the Sun, the Inner Planets, the Earth, and the Moon, which were ranged around the open space in the centre of the Gallery. The original intention in placing them there, he explained, was to convey to visitors, as in the similar exhibit at the Museum of Practical Geology in London, some idea regarding the vastness of the distances with which astronomy has to deal, and, in conveying this impression, to enable the mind to grasp the conception of the duration of Geological Time. Before leaving the building the members accorded the Curator a hearty expression of thanks for his painstaking explanation of the Collections brought under their notice.

Proceeding along the South Back of the Canongate in the direction of Holyrood, the members had their attention drawn to the general features of Arthur's Seat and its surrounding area by Mr Arthur's Seat. Goodchild, who illustrated his description by means of a coloured model. His untimely death, however, so much deplored by many of our number, has deprived

us of his invaluable aid in reproducing the explanation then offered, as well as of a specially written paper indicative of his views regarding the geological formation of the neighbourhood of Edinburgh; but in order to supply an index to his individual judgment in the matter, and to offer a tribute to his willing services towards the advancement of scientific research among the Berwickshire Naturalists, there follow abbreviated notes, from the Proceedings of the Geologists' Association, of an Outline of the Geological History of Arthur's Seat, which was read by him in 1897.* The earlier chapters of this geological history supply a record of an old land surface, probably formed mainly of rocks belonging to the Caledonian Old Red, but partly also shaped out of the ends of highly contorted Silurian and other rocks, of still greater age. Ample reason exists for believing that such a surface was marked by much irregularity of form, though whether any of the eminences now in existence were at that period conspicuous is matter of uncertainty. The Upper Old Red Sandstone, which is distributed generally throughout this area, affords evidence of an age when arid conditions prevailed, for whatever rain may have fallen was too intermittent in its occurrence to allow of the growth of vegetation. Under such conditions a series of deposits was formed, which partook of the nature of accumulations of wind-blown sands, or of torrential drifts, which filled up the old water-courses; and therefore the distribution of the Upper Old Red Sandstone is very irregular, spaces abounding where no indications of such deposits exist at present. Towards the close of this period subsidences of a local nature occurred, and continued for a space, thereby introducing new meteorological conditions. Rain fell with greater regularity, the measure of aqueous vapour in the atmosphere considerably modified the diurnal range of temperature, and rock-weathering of the normal type prevailed. With the return of humid conditions vegetation flourished, and animal life began to abound. As yet the sea had not gained a permanent entry; but the area probably formed part of a lagoon, or a series of lagoons, exposed to the alternate processes of flooding and desiccation,

* Vol. xv., Pt. 4, August 1897.

the rate of deposition of rock material brought in by the old river, whose course here lay South-Eastward, being generally balanced by the rate of subsidence. Under some such conditions were formed the rocks which now constitute the slopes on the West side of Hunter's Bog, and most of the deep scarp extending downward from Salisbury Crags to the Queen's Drive below, and which correspond in petrographical character and stratigraphical position to the strata called the Lower Limestone Shale on the Southern side of the Border.

Thereafter followed a more rapid subsidence, during which the sea may frequently have gained admittance, although the general absence of organic remains forbids the entertainment of positive views on this point. Under these conditions was laid a mass of shales and cement stones, with occasional bands of sandstone, and several bands of limestone of a peculiar type, composing the Ballagan Beds of Glasgow geologists. During the process of their formation a volcano, or, perhaps, a series of volcanoes, arose in some part of the area to the West of the one now under review. The precise nature of its earliest eruptions must ever remain unknown; but proof exists that while the Ballagan Beds were being laid in the area now represented by the Queen's Park and the Calton Hill, the volcano did now and then, early in its developmental history, give rise to explosive eruptions sufficiently violent to project fragments of eruptive material into portions of the areas above indicated. Hence it happens that the Ballagan Beds are inter-stratified with bands of tuff. Rocks so formed now constitute the lower part of Hunter's Bog, and much of the rising ground to the East of that depression. Concurrently with the upgrowth of this volcano there arose hot springs, and perhaps also geysers, from which were deposited beds of calcareous and siliceous sinter, which were spread out in thin layers in the vicinity of their orifices. Several of these deposits occur in connection with the old Edinburgh volcano, and may be seen at various places in the Queen's Park. Then occurred a succession of periods of more violent explosive eruption, alternately with conditions favourable for the growth of beds of sandstone, which were followed by the outpouring of one or more beds of basalt lava, while the area was still

submerged. One of these flowed in the direction of Arthur's Seat, and now forms what is known as the Long Row. This was succeeded by a period of quiescence, during which another band of geysierite was formed, which may be seen on the South side of the Queen's Park, between Windy Goul and the Queen's Drive. Various successive eruptions of a more or less violent character supervened, ere another basalt lava flow in the direction of the Queen's Park set in. Submergence still continued, and perhaps kept pace with the growth of the volcano, as the beds overlying the last named lava consist of stratified tuff, in which remains of *Rhizodus* and transported fragments of *Lepidodendron* occur. In these beds, which are, as a rule, fine grained and of only a few feet in thickness, are found large ejected blocks, one of which, seen just below St. Anthony's Chapel, may really be a volcanic bomb. This thin bed of tuff is succeeded on Arthur's Seat by a compact basalt lava, very columnar in character, showing traces of fluxion structure on its weathered surface, and weathering a bright rust-red colour. Another bed of geysierite accompanied by a thin band of tuff succeeds, and is followed by a remarkably brecciated lava. Three other lava flows poured from the Edinburgh volcano in the direction of what is now known as the Queen's Park, of which the older two are basalts, and the higher a true andesite, containing large tabular crystals of Labradorite. This is the rock which forms most of the Eastern side of Arthur's Seat, and which both caps and forms the East slope of Dunsappie.

Contemporaneously with the eruption of these lavas and tuffs, there was intruded underground three
Intrusive sheets or sills of rock, the lowest of which is
Rocks. a porphyritic basalt, forming the rock of St. Leonard's Crags and Heriot Mount. This rock occurs in the form of a wedge, with its base towards the West, and it cuts across the strata from below upwards, as it is traced Southward. The next is a typical dolerite, whose remains form a scarp edge, which presents a bold natural precipice facing Westward, the familiar landmark known as Salisbury Crags. Both of these may possibly represent underground intrusions of basic eruptive matter, which are possibly contemporaneous with the lavas of the same com-

position forming the main bulk of the hill. The third intrusive mass is of a similar composition to that of the highest lava of the Queen's Park, and is essentially an andesite. This rock forms a series of apparently discontinuous wedges, which are intruded into the Ballagan Beds on the East side of Hunter's Bog, and compose the hills called the Dasses.

With reference to the shaping of the minor details of the surface of Arthur's Seat, three factors must be borne in mind. First, the result of prolonged exposure of rocks, of very diverse powers of resistance, to atmospheric waste; second, the influence of streams in excavating their own channels without having their courses affected by the minor changes otherwise occasioned; and third, the effect of prolonged glaciation, which not only very materially modified any pre-existing features it might encounter, but left impressions peculiarly its own, as may be noted in the numerous small rock basins which have been hollowed out in the lavas of Whinny Hill, as, for example, in Samson's Grave.

At various points on the route, which lay by St. Anthony's Chapel, Whinny Hill, Dunsappie, Duddingston, and Samson's Ribs to St. Leonard's Hill, opportunity was taken to illustrate the theory of rock formation by the testimony of the rocks themselves, and to afford information regarding the many historic sites and country-seats in which Midlothian abounds, so that the excursion, albeit not without fatigue, proved intensely interesting and profitable. As commonly happens, the time available was insufficient to allow of everything being done with deliberation, so that on reaching the Park gate, the members learned that a rush would have to be made to gain the place of entertainment by the hour appointed.

For the convenience of those leaving town by rail, the dinner was arranged for in the Imperial Hotel, Waverley Bridge, at 5 o'clock, when a goodly representation of members sat down to an excellent repast, presided over by Mr Wm. B. Boyd, who had been one of the party throughout the entire day. On the motion of Captain Norman, R.N., Mr Goodchild,

Club

Dinner.

who was the guest of the Club, was cordially thanked for his kind conduct of the members during the afternoon, and for his admirably clear explanation of the geological features of the district visited. The customary toasts were duly pledged.

The following were nominated for membership:—Lt.-Colonel Charles Thomson Menzies, Kames, Greenlaw;
Nomina- Thomas Lisle Asher, 8 Whitehouse Terrace,
tion of Edinburgh; Mrs Essex Thompson, Walworth
Members. Hall, Darlington; William James Bolam, Berwick-on-Tweed; and Rev. Percy Thomas Lee, Shilbottle Vicarage, Lesbury.

ST. BOSWELLS, FOR LANGMOSS.

THE SECOND MEETING was held on Thursday, 22nd June, at St. Boswells, in splendid weather. The company assembled at the Railway Hotel, Newtown St. Boswells, where brakes were provided for the journey to Whitmuir Hall. Among those present were:—Mr Wm. B. Boyd, Faldonside, President; Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, B.D., Editing Secretary; Mr Adam Anderson, Cumledge Mill; Miss Black, Edinburgh; Mr T. Craig-Brown, Selkirk; Mr James Curle, Priorwood, Melrose; Rev. J. Daun, Ashkirk; Sir George B. Douglas, Bart., Springwood Park; Mr A. M. Dunlop, Crawford; Miss Gair, Abbey Park, Coldingham; Mr Arthur Giles, Edinburgh; Dr R. Shirra Gibb, Boon; Mr Hart, Melrose; Sir Archibald Buchan-Hepburn, Bart., Smeaton-Hepburn; Rev. David Hunter, D.D., Galashiels; Rev. David Paul, LL.D., Edinburgh; Mr H. Rutherford, Fairnington; Mr John C. Scott, Synton; Mr William Shaw, Galashiels; Miss Simpson, Bonardub, Coldingham; Mr Jas. A. Somervail and Mrs Somervail, Hoselaw; and Mr Wm. Weatherhead, Berwick.

The drive to the scene of the day's botanizing lay along the Selkirk highroad and through the parish of Bowden. As there is a steep rise on the road most of the way, a fine view could be obtained of the shapely Eildons and the rich woodland of Eildon Hall on the North-West, and of the valley of the Tweed on the East, rendered soft and mysterious by the

prevailing summer haze. At a point about six miles from

St. Boswells a halt was called, as it had been

Murder arranged to send on the carriages to Whitmuir

Moss. Hall to await the arrival of the party after their

ramble about the edges of the two interesting

peat-bogs of the neighbourhood was completed. The former

of these adjoins the road, and lies in a hollow on the West

side, access being obtained through the meadow surrounding it.

It rejoices in the sombre name of Murder Moss, though

whether or not a tragedy has so aspersed it, it is difficult at

this date to determine. A local solution of the ominous

title hardly satisfies one's legitimate curiosity. It is said

that formerly the neighbours obtained their peat-fuel here,

and that the task of procuring it was so laborious that the

hard-wrought peasants regarded the operation as "fair

murder"! Perhaps as likely an explanation might be the

conjecture, that two rival botanists essayed to explore its

treasures, and that as they threaded their way to the

centre, along the rush-grown ledges which afford precarious

footing to the intrepid in fine weather, the one supplied

the necessary jerk to make the other lose his foothold and

plunge into the unknown depths of water and mud! On

the occasion of the Club's last visit, the season had proved

so wet that it was impossible to gain an entrance to the

Moss; but on the present occasion, owing to continuous dry

weather, the members had little difficulty in reaching well

into the centre, so long as they made use of the somewhat

treacherous pathways already referred to. On crossing the

field encircling the Moss, egg-shells of the Curlew and

the Grouse were noticed, vestiges no doubt of the depredations

of the ubiquitous Rook. On the margin of the Moss,

Orchis latifolia var. *incarnata* (L.), was discovered in flower, as

well as *Viola lutea* and *V. amœna*. On a raised bank in the

middle were noted *Selaginella selaginoides*; *Triglochin palustre*;

Eleocharis cœspitosa; and *Veronica scutellata*. Among Pond-

weeds were identified: *Potamogeton rufescens*; *P. heterophyllus*;

P. polygonifolius; *P. plantagineus*; also *Myriophyllum spicatum*;

Comarum palustre; *Menyanthes trifoliata*; *Hippuris vulgaris*;

Carex filiformis; and *C. ampullacea*. As on a former excursion

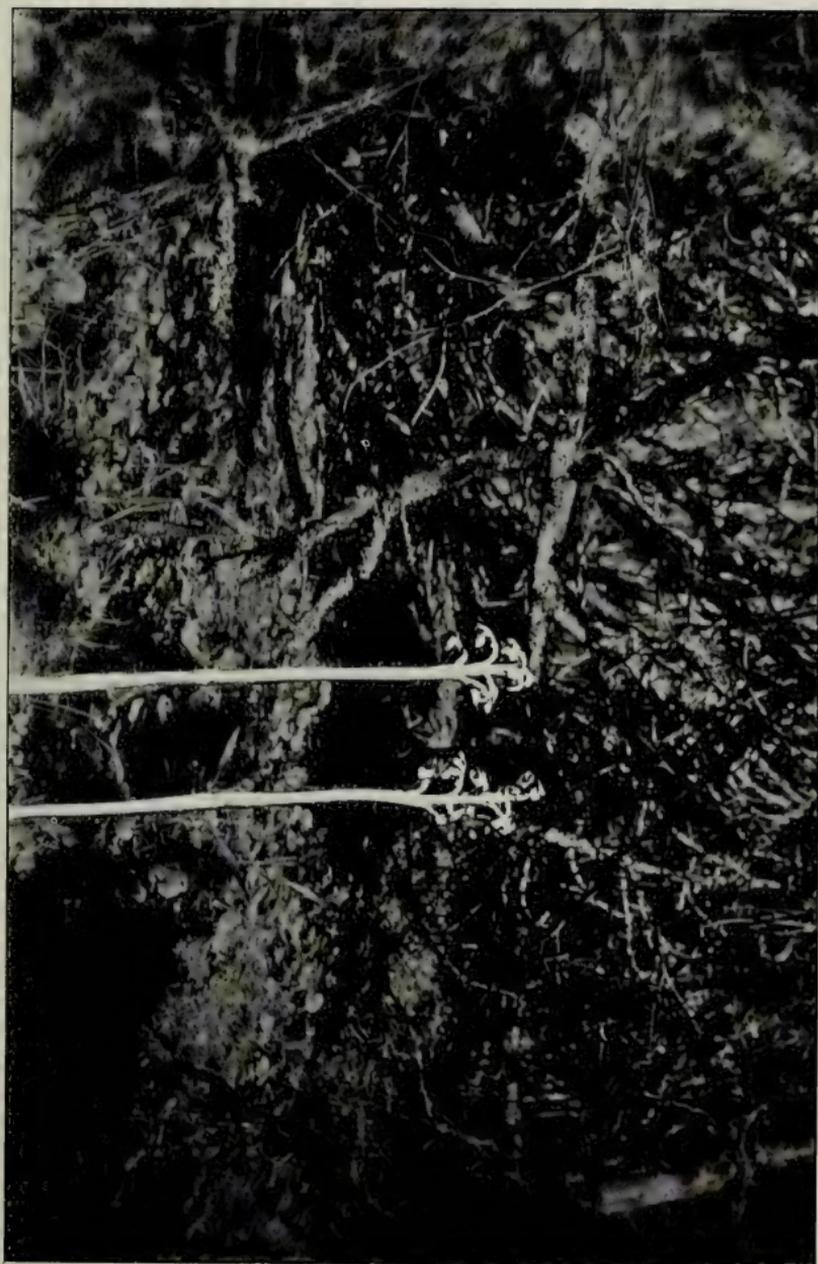
to Langmoss, which is situated higher on the hillside to the

West, and was again visited by one or two members, *Cicuta virosa* and *Carex teretiuscula* were reported. *Salix repens* was not uncommon on the surrounding moor.

It was originally intended, and the Organizing Secretary had so planned, that the whole time of the members should be devoted to rambling about these Mosses and Whitmuir grounds and plantations; but a kind invitation to the Club to visit Newstead on the return journey having been accepted by the President, this alteration in the day's programme necessitated a hurried advance towards

Whitmuir Hall. Whitmuir Hall, the residence of Mr Charles W. Dunlop, who had granted permission to view the grounds and investigate an adjoining plantation, one of the few stations for *Corallorhiza innata* in our district. A new garden had recently been laid out, and gave promise of becoming attractive and fruitful. The Mansion-house is situated among fine trees, and surrounded by a lawn in which several varieties of shrubs were making luxuriant growth. A Clematis on the house-wall was an object of general admiration. The party, however, had to hasten through the grounds, those electing to return by Newstead taking their places in one of the brakes, and those bent on further botanizing repairing to the belt of wood on the South-East, in which *Pinus montana* was abundant, though giving signs of damping at the root. Here on 19th July 1899 was discovered the Coral-root, and it was confidently expected that it might be again in flower even so early, as the season had proved forward. Very diligent search was made in damp, moss-grown hollows, the ideal home of this rare Orchis; but in spite of the most thorough examination no trace of it could be found. It may lessen the disappointment of the members to learn that a like failure awaited the President and Mr Wm. Shaw, who renewed the search a fortnight later, and were forced to the conclusion that the dryness of the season had to do with its failure to flower; but that no anxiety regarding its continuance here need be entertained, there is reproduced in the present volume (Plate XIII.) a very successful photograph of the plant *in situ*, taken during the summer of 1906 by Mr D. S. Fish, Botanic Gardens, Edinburgh, who in the company of Mr

CORAL-ROOT (*Corallorhiza innata*), WHITMUIR HALL, ST. BOSWELLS.



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Boyd was fortunate enough to re-discover it in perfect flower. It will be of further interest to note that on 3rd July 1903, in the North Plantation, Ayton, near the Ale Water, the same ardent botanist identified the plant growing on the opposite side of the road from its original station discovered by Mr Wm. Shaw. In the course of their examination of the woods and policies of Whitmuir Hall, the party on the present occasion reported *Ranunculus lingua*; *Drosera rotundifolia*; *Carex curta*; *C. paniculata*; and *C. disticha*.

Owing to the interest recently aroused by the Society of Antiquaries of Scotland in Newstead, already notable in our annals by the discovery in 1827 of a meteoric stone, weighing 32lbs., the invitation by Mr James Curle of Priorwood, to whom had been intrusted the superintendence of the excavations, to inspect the work already undertaken, was cordially accepted by the President, who conducted a party, which was augmented by other members from Galashiels, to the site of this Roman Fort, extending over 14 acres, where their host supplied a historical account of the Red Newstead Fort. Abbeystead field in which it is situated, and an interesting narrative of the progress of the work of excavation. In the course of his address he explained that the ground now occupied by the members was a Roman station, which had been absolutely forgotten, its name having disappeared, and no mark of its existence having been traceable above the ground. In 1743 Rev. Adam Milne, in his description of the parish of Melrose, had written thus regarding the site:—"About a mile to the West on the Tweed stands Newstead, a place noted for an antient lodge of masons, but more remarkable for another Abbacy on the East side of it, called Red Abbeystead. Whether it got this name from the colour of the stones wherewith it was built, or because it was an house belonging to the Templars, they wearing a red cross for their distinguishing badge, I cannot determine; but it is certain, when the ground here is plowed or ditched, the foundations of several houses are discovered, a great deal of lead got, and some curious seals." Then came General Roy, who inspected the roads in North Britain in 1769-71, and was of opinion that the only signs of a Roman station were some entrenchments near the village of

Eildon. After this, the discovery of two Roman altars was made, the first being found in 1783, the second in 1830, being dedicated by a centurion of the XXth Legion to the god Silvanus. In 1846 the laying of the railway threw more light on the subject than any discovery hitherto made. In a cutting to the South of the Red Abbeystead field there were found a number of pits filled with black peaty matter, in which were portions of Samian ware, antlers of deer, and other bones. The most interesting thing of all found was the skeleton of a soldier standing erect in one of the pits with his spear beside him, part of the wooden shaft being still preserved. After this, so far as antiquaries were concerned, the site was deserted until the spring of 1904, when Mr T. J. S. Roberts, Drygrange, while doing some draining in the Gutter Flat field, brought to light foundations of buildings, a line of curiously jointed water-pipes, and some Samian ware, etc. It accordingly became evident that the site was worth investigating, and on the matter being brought before the Society of Antiquaries of Scotland they decided to take it up. Operations were begun on the 14th of February 1905. In the Gutter Flat field (two fields away) there were traced what seemed to be a large annexe of the camp containing about four acres, and a large building with an apse, which was probably the bath of the place. They had not had time yet to go further with the work of excavating there. In the Wellmeadow (the field between the Gutter Flat and the Red Abbeystead) they came upon a rampart, 45 feet wide, lying partly in stone paving. Inside was a paved road, 15 feet wide. On the outside of the rampart lay a ditch 21 feet wide and 12 feet deep, and two subsidiary ditches and ramparts. The buildings in the field formed six blocks, five being barrack-like buildings over 200 feet in length. These were separated from each other by roads about 29 feet wide, having footpaths on one side. The sixth building, 190 feet by 35 feet, was of better and heavier masonry, and showed one good buttress and well defined cross-walls. At one end were noted a number of cross-walls which might be broken down flues. Lying within the Red Abbeystead field there were then traced out the outlines of a large house, 130 feet by 124 feet,

having a central courtyard round which a passage ran giving access to the rooms. Such buildings have been found in many forts, though seldom has the plan been obtained more completely than at Newstead. They have usually been assigned as the quarters of the Commandant. Immediately to the North of this lay a long buttressed building, which no doubt formed one of the store-houses of the garrison. At the South-West corner of this building part of a stone pillar stood upright, and so near the surface that the ploughs had left their track across it. With regard to the articles found, there had been discovered a quantity of ordinary rough pottery, Samian ware, and large pieces with potters' marks similar to those found in Antonine's Wall. They had also found a circular brooch of pale blue enamel, with six round spots of red enamel, which were very rare in Scotland, Camelon being the only place where good specimens of them had been obtained. With regard to coins, they got a number of denarii of Nero, Vespasian, Domitian, Hadrian, Vitellius, Antoninus Pius, and Crispina, and brass specimens of Faustina, the Elder, and of Trajan. One fragment of stone with an inscription upon it had been found, and also several iron implements. In concluding his remarks, Mr Curle stated that they had found under the rampart the ditch of an older camp, and in the bottom of the ditch they came upon a typical Roman stilus of bronze.

On the motion of the President, who explained that on account of the invitation being received after the issue of the ordinary notices of the meeting a smaller number had been able to avail themselves of it than he could have desired, Mr Curle was heartily thanked for the opportunity granted the members to inspect the Fort, and for the painstaking way in which he had sought to put them in possession of the facts which the operations of the Society of Antiquaries had brought to light.

At 4-30 both sections of the excursion arrived at the Railway Hotel, where dinner was served, and the usual toasts were proposed, Mr Wm. B. Boyd, President, occupying the chair. Considerable interest was aroused through the exhibition by Sir George Douglas of a silver-mounted Malacca

**Club
Dinner.**

cane, originally belonging to Sir Walter Scott, which had come into his possession in consequence of the settlement of a bad debt, incurred by a former servant of Sir Walter to a Kelso tradesman.

The name of Mr Charles W. Dunlop, Embsay-kirk, Skipton-in-Craven, to whose courtesy the Club was indebted for their visit to Whitmuir Hall, was duly proposed for membership.

Mr Curle informs us that subsequent to the visit of the Club, the line of the Via Principalis running North and South and dividing the fort into two unequal portions was defined in the Red Abbeystead, while beyond the buttressed building already mentioned, the Praetorium of the fort was discovered. This building measured 132 feet long by 105 feet broad. It consisted of an outer courtyard surrounded by an ambulatory supported at least on three sides on pillars, the bases of some of which remain. Opening from this courtyard was a smaller inner court which gave access to five chambers placed against the West wall of the building, of which the central chamber probably formed the shrine in which the standards were deposited. The plan is of a well known type occurring both in Germany and Britain. An uncommon feature, however, is the occurrence in the outer courtyard of a small chamber immediately facing the entrance and measuring over the walls sixteen feet square. Close to this chamber on the North side a great pit was discovered. The position is that in which we might expect a well to be found, and it is highly probable that this pit had served for this purpose. At the surface it had a diameter of 20 feet. It was found to contain a great mass of pieces of red sandstone such as were used for building. Many of the stones showed signs of hammer-dressing, and some of the larger blocks had apparently been used in the construction of the doorways and other parts of the building. Over 40 cartloads of the stones were taken from the pit. The first discovery made was a very well preserved bronze pennannular brooch found at a depth of 8 feet. Near it lay a human

skeleton to which it had probably belonged, beside which one or two tiny glass beads decorated with gold leaf were picked up. At 12 feet an altar was discovered, which stands 4 feet high and bears the following inscription to Jupiter:—

I . O . M
 G . A R R I V S
 D O M I T I A N V S
) L E G . X X . V . V .
 V . S . L . L . M .

Beneath the altar lay a 1st brass coin of the Emperor Hadrian. Going down through a black wet deposit many animal bones were discovered, and towards the bottom, which was reached at 25·6 feet, there were found a complete human skull and a portion of a second. Near these lay some 350 brass armour scales, part of an iron corselet mounted with brass, a couple of knives, one with its handle of bone, the boss of a shield, several beautifully formed arrow-heads of iron, a bill-hook, a linch pin, an iron bar, remains of two oak buckets, portions of querns, many fragments of leather and of great earthenware jars, and finally a stone on which was carved rudely, the boar, symbol of the twentieth legion.

HOWICK.

THE THIRD MEETING of the year was held on Wednesday, 26th July, the rendezvous being Little Mill Station, N.E.R., at a quarter-past ten o'clock. Among those present were the following:—Mr Wm. B. Boyd, Faldonside, President; Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, B.D., Editing Secretary; Mr Jas. Hewat Craw, West Foulden; Mr J. T. Dand, Hauxley; The Hon. and Rev. William Ellis, Bothalhaugh; Rev. James Fairbrother, Warkworth; Mr George Fortune, Duns; Mr Thos. Graham, Alnwick; Mr Gideon J. Gibson, Netherbyres; Mr Arthur Giles, Edinburgh; Mr J. G. Goodchild, F.G.S., Edinburgh; Mr William Maddan, Berwick; Mr Charles E. Moore, Alnwick; Mr Henry A. Paynter, Alnwick; Mr W. Mark Pybus, and Mrs Pybus, Warkworth; Mr T. B. Short, Berwick; Miss Simpson, Coldingham; Mr James A. Somervail, Hoselaw; Mr Alexander Steven, and Mrs Steven, Berwick; Mr Edward Thew, and Mrs Thew, Warkworth; Mr Frank Thew, London; Dr Waterson, and the Misses Waterson, Embleton; and Rev. N. M. Wright, and Mrs Wright, Ancroft Moor.

The route lay Eastward along the highroad, beautifully fringed with umbrageous beeches, to the grounds of Howick, the seat of Earl Grey, who, before leaving home to fill the high office of Governor General of Canada, had granted permission to the Club to visit the beautiful gardens and policies, which an ancestor's skill and taste had done so much to embellish, and had instructed his agent, Mr J. H. Mansfield, to afford every facility for viewing their treasures. The Mansion-house, which is of classical design, consists of a central block flanked by two

wings, and was built, from plans by Newton of Newcastle, by Sir Henry, eldest brother of the first Earl, in 1782. It occupies the site of a small medieval tower, and stands on a terrace overlooking the Howick Burn, which winds through a wooded glen for a mile and a half to the sea. It is approached by a fine avenue, on the borders of which many wild flowers, including *Ajuga reptans*, grew in profusion, and is hidden from view by a surrounding copse of hardy shrubs. At the main door Captain Norman, R.N., afforded the party interesting information regarding the history of the noble family, and the dates of the foundation and subsequent alterations of the house. The chief interest attaching to it, he remarked, lay in the fact that it was the home, and in great measure the creation, of the famous statesman, Lord Grey, second Earl, who was born at Fallodon in 1764, died on 17th July 1845, and was interred in Howick church, where a marble monument with a richly decorated canopy was erected to his memory, and to that of the Countess, who died in 1861. On entering the building the spacious hall and reception rooms, for the time deprived of some of their riches by the removal of many family portraits to Canada, claimed attention. Two oil paintings, however, were specially remarked, both by reason of their artistic excellence and of the manner in which they came into the possession of this illustrious house. The one represents Napoleon Bonaparte, who sat for it during the historic Hundred Days, but who, after the catastrophe that befell him at Waterloo, was never again in a position to possess himself of it. Ultimately it fell into the hands of the second Earl, and was pronounced by M. de Flahault, one of the Emperor's aides-de-camp, who was a frequent visitor at Howick, as an extremely good likeness of the Emperor, as he appeared at that critical period. Despite the fact that the light was insufficient for the purpose, the members inspected this relic with the greatest interest, as it is believed to be the only authentic likeness of him at that stage of his career. The face does not convey such an idea of corpulence as is suggested by the sketches made not long after on board H.M.S. "Northumberland"; but the huge cocked hat of the period, which is much in

evidence, may dwarf to some extent the shaded features. The other portrait depicts Dr Benjamin Franklin, the celebrated American diplomatist and author, and was bequeathed by the third Earl's grandfather, who commanded a Brigade during the American Revolution, and received it from his aide-de-camp, Captain André, "the amiable spy" afterwards hanged at Washington, who had looted it from Franklin's house in Philadelphia, while in the occupation of British officers. In the Library was exhibited a ponderous copy of the New Testament in gold print, by De la Rue, Cornish & Rock, London, a gift to Earl Grey of Reform fame, containing three hundred and sixteen pages, with notes from the exposition of Matthew Henry.

As so much remained to be explored, the members were escorted by Mr Mansfield to the gardens which constitute a striking feature of the demesne; and in proceeding thither noted a Japanese bog-garden, overshadowed by cut-leaved Alders, and a peculiarly handsome specimen of *Cedrus Atlantica argentea*, of some ten summers, occupying a conspicuous station on the lawn. The impression formed at the outset of the bestowal of an unusual amount of thought and technical skill

on the enrichment of the landscape, was but deepened on reaching the flower-gardens, where the indication of a woman's genius proved unmistakable. On the East of a fine herbaceous border lining the walls of the kitchen-garden, has been designed on a slightly raised greensward a graceful rose-arbour, composed of a series of elegant, light iron arches, over which climbing Polyantha Roses made a splendid show. The lawn is figured with plots of hardy shrubs, two of which, remarkably handsome examples of *Cupressus Lawsoniana lutea*, were planted by the Duke and Duchess of Connaught, on the occasion of their visit to Newcastle a few years previous, when they were the guests of Lord and Lady Grey. As it was the time of flowers, the varied display of colour throughout the gardens was most notable, affording a sense of delight which the brilliant sunshine only helped to deepen. Much could only be hurriedly glanced at, but in their perambulation the party found time to remark the following:—*Cupressus macrocarpa* (10 feet high at entrance to garden); *Picea*

pungens glauca; *Acer Negundo variegatum* (specially large specimen for so far North); *Olearia Haastii* (vigorous and profusely florescent); and *Quercus Cerris variegata*. In pursuing their course towards the Burn, they were afforded the opportunity of viewing the Hall from the terrace, whence its architectural features appeared to greater advantage, and had their attention drawn to a British Oak, planted by the late Queen Victoria in remembrance of an early visit. Before descending into the dene they visited the well-stocked fish-pond, constructed in 1819, and covering an area of five acres, on whose surface *Nymphaea alba* and *Nuphar lutea* expanded their flowers in wild abundance.

From this point the path bears the name of the Long Walk, and in addition to its sylvan beauty has acquired a peculiar interest through its having been the weekly round taken every Sunday by the second Earl, in company with the members of his family and guests. It winds along the course of the little stream, abounding in trout, on whose shaded banks flourish *Circea lutetiana*; *Ribes Alpinum* (probably planted) and *Vinca minor*, and leads to the Pinetum, which formed the next item in the day's programme. Here the Organizing Secretary intimated that most of the Conifers reported during the Club's last visit in July 1879 were still standing, though a few, including specimens of *Cupressus macrocarpa* (estimated then to have reached 40 feet), *Pinus Pindrow*, and small plants of *P. Cembra*, and of *Taxodium*, had disappeared. Among those to which particular attention was directed were the following:—*Abies concolor*; *A. Nordmanniana*; *A. Pinsapo*; *A. Webbiana*; *Cedrus Deodara*; *Cryptomeria elegans*; *Cupressus Lawsoniana* var. *erecta viridis*; *C. Nootkaensis*; *Juniperus recurva*; *Picea Menziesii* (in poor health); *Pinus Austriaca*; *P. Cembra*; *P. excelsa*; *P. insignis*; *P. Pinaster*; *P. Strobus*; *Abietia Douglasii* (9 ft. 6 in. at 3 ft. from ground); *Sequoia gigantea* (12 ft. 9 in. at 3 ft. from ground); *S. sempervirens*; and *Tsuga Hookeriana* (not thriving.) A remarkable clump of *Araucaria imbricata*, twelve in number, lately exposed by the uprooting of sheltering trees, and all in perfect health, though now unprotected and within a quarter of a mile of the sea, was observed on the

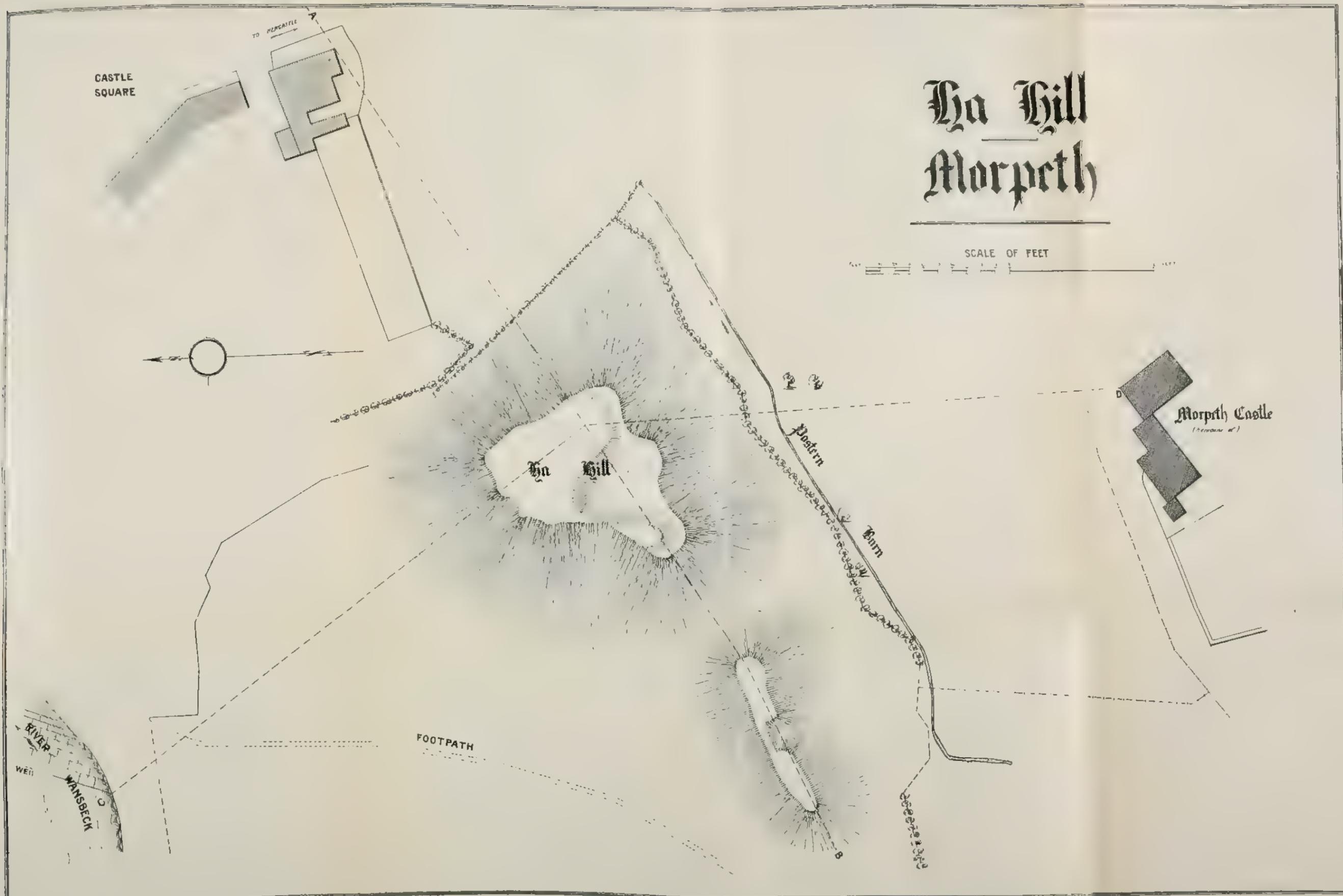
right, as the path led from the sequestered glade to the confines of the policies and the coast. A handsome growth of *Equisetum maximum* (*Telmateja*) edged the burn near its junction with the sea; but no trace of *Helminthia echioides*, already reported from the grassy banks near its mouth, was discerned.

The walk along the coast, on which Sea Buckthorn (*Hippophaë rhamnoides*) proved the only shrub attaining any considerable growth, was rendered easy by following the path engineered on the top of the sandstone cliffs, and continued well on to the village of Craster, a distance of nearly three miles. On their way thither, the party viewed at ebb-tide the haven at which in former days, and before the institution of express corridor-trains, it is stated there used to embark for London the members of the household with the family baggage, and a deeply incised cleft to the East of Sea Houses, known in the locality as Rumbling Churn. The beach throughout was void of sand, and consists of a series of shelving rocks in which strata of shale are conspicuous. At the Bathing-house, about midway between Howick Burn and Craster village, time was allowed for lunch, as arrangements for the supply of refreshments had been made beforehand; and the reassembling of members was taken advantage of by the President to acknowledge the kindness of Lord Grey in throwing open his house and grounds to the Club, and to thank Mr Mansfield for his courtesy and helpfulness during their visit. Resuming

the walk, a brief pause was made at Cullernose Point, a rugged headland of columnar basalt, rising to a height of nearly 120 feet, where

Mr J. G. Goodchild offered some remarks on its peculiar structure. The promontory is noteworthy for the exhibition of like geological features with those at Embleton, which were reported on by him in an instructive paper contributed to the Proceedings in 1903.* The chief feature of interest is the occurrence of the Whin Sill, an eruptive rock formed within the earth's crust, which has forced its way into the enclosing sedimentary rocks, and here exhibits the usual columnar jointing, so strikingly

* Ber. Nat. Club, Vol. XIX., Pt. I., pp. 60-67.



illustrated at Dunstanburgh Castle, a few miles further North. In the clefts of the rock, but beyond the reach of the collector, fine tufts of *Asplenium marinum* were observed. On reaching the top of the headland, the travellers rejoiced to find that the next portion of the route consisted of a grass track all the way to Craster, on which, here and there, rocks with unmistakable glacial markings obtruded themselves, and a series of hewn stones had been stationed at intervals to guide the men of the Coastguard service on their night-patrols in winter.

Before entering the village, a view of Craster Tower, of which an old pele built before 1415 forms the central portion, was obtained, concerning which Captain Norman communicated the following:—This estate was originally granted to the Craster family, of which Thomas William Craster, Esquire, is the present representative, nearly six centuries ago. The family is a very old one, Albert, its founder, having been in possession of Craster before the year 1168. The village is devoted to the

Craster fishing and herring-curing industries, and the
Village and inhabitants for the most part are distinguished
Harbour. by the surnames of Archbold, Smailes, and Simpson. Situated at the South-East end of the parish of Embleton, it is noted for a valuable outcrop of Whinstone, part of the geological formation already referred to, which has rendered it long famous for quarrying. In the *Newcastle Courant* of 14th March 1772 the following advertisement appeared: "Craster Whinstone Quarries. Wanted immediately a number of good hands that understand the dressing of said stones for paving London Streets." The village can boast of a small natural haven for cobbles, but cannot as yet provide accommodation for the large herring and deep-sea fishing boats, of which it owns a few, which in consequence are laid-up at Amble when not required. In regard to this serious hindrance to the development of that industry, it is interesting to learn from the present proprietor that the want of a harbour at Craster has long been recognised, and a Provisional Order is now before Parliament to sanction the making of one. The late Captain Charles Craster, who recently lost his life during the storming

of a monastery in Thibet, was very much interested in the harbour question, and his surviving brothers and sister intend to construct a harbour here to his memory. It is hoped to make a start as soon as the necessary Parliamentary authority has been obtained. The harbour is to be formed by means of two piers to enclose the present haven; the North pier 232 feet long and about 26 feet wide, and the South pier, which is merely a breakwater, about the same length, but quite narrow. All shipping and landing of goods will be done at the North pier. The depth at high tide inside the piers will be about $14\frac{1}{2}$ feet. The North pier will be joined by a new road running through North Craster towards Dunstanburgh Castle.

At this point of the excursion carriages were provided for the drive to Embleton by the road to the West of the village, which passes the entrance to Dunstan Hall, now named Procter Stead, the reputed birthplace of Duns Scotus. Here a short time was allowed the members to examine the building, during which Captain Norman improved the occasion by offering a few historical remarks. The building, or group of buildings, he said, had undergone so many vicissitudes and alterations that it was difficult to form a positive opinion as to its original ground-plan, or the date of its foundation. There appeared to have been two distinct towers, both of which were still faced in parts with 14th century ashlar-work. The oldest part was an ancient pele, formerly used as a watch-tower in advance of Dunstanburgh Castle. Its basement storey belonged to a very remote period, one portion of it exhibiting an approximation to the long-and-short work of pre-Conquest times. The walls of this part, four feet in thickness, and its vaulted chamber, were formed of basalt; but the superstructure consisted of sandstone, the Edwardian ashlar-work indicating that it was erected about the same time as the neighbouring castle. The place has gained notoriety by being claimed as the birthplace of John Duns Scotus, the famous 13th century schoolman, philosopher, and divine, who was born in 1265, and died in 1308. He belonged to the order of Franciscan Friars, and afterwards

became Doctor of Theology in Merton College, Oxford. As guide, philosopher, and friend of the party for the day, Captain Norman was careful to avoid any positive statement on a subject which has long vexed the dwellers on both sides of the Border, and even recently, under the shadow of the postern-gate of Dunstanburgh, evoked patriotic feeling, and the expression of ecclesiastical remonstrance. Discretion rather than fear, however, dictated his attitude, for in spite of the acknowledged fact that at the end of one of his manuscripts, now in the Library of Merton College, there is subscribed this memorandum:—"Here endeth the lecture of John Duns, who was born in a certain hamlet of the parish of Emylton, called Dunstan, in the county of Northumberland, belonging to the house of the scholars of Merton Hall in Oxford," Captain Norman possessed the additional information, received from the late Mr C. B. P. Bosanquet, of Rock Hall, an intimate friend of the late learned Bishop Creighton, formerly Fellow of Merton College and vicar of Embleton, that doubts regarding the authenticity of this note had been entertained by the Bishop himself, as well as by some of the College authorities. The point will probably never be definitely decided, and will remain, like many another kindred problem, a topic for discussion at future Naturalists' meetings. A room in the building was shown as that in which the famous scholar first saw the light, and a refreshment of strawberries from the adjoining garden thereafter helped to sweeten the relations between the upholders of Dunstan, Northumberland, and those of Duns, Berwickshire.

Re-entering the carriages, the members proceeded to Embleton, which was reached at 4-45. Here dinner was served in the Dunstanburgh Castle Hotel. Mr **Club**
Dinner. Wm. B. Boyd, President, occupied the chair, and proposed the usual toasts, which were duly honoured. Members returned home *via* Christon Bank Station, whence trains were timed to leave for the South and the North at 6-11 and 6-58 respectively.

MORPETH FOR MITFORD.

THE FOURTH MEETING of the year was held at Morpeth on Thursday, 24th August, in splendid weather. Among those present were the following:—Mr Wm. B. Boyd, President; Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, B.D., Editing Secretary; Miss and Miss A. M. Aiken, Ayton; Rev. E. Arkless, Earsdon; Mr John Bolam, Bilton; Mr James Boyd, Newcastle; Miss Boyd, Faldonside; Rev. J. Burleigh, Ednam; Mr George G. Butler, Ewart Park; Rev. Professor Cooper, D.D., Glasgow University; Mr J. T. Dand, Hauxley; Mr Thomas Darling, Berwick; Mr William Dunn, Redden; The Honourable and Rev. Wm. C. Ellis, Bothalhaugh; Rev. James Fairbrother, Warkworth; Mr James Fergusson, Morpeth; Mr George Fortune, Duns; Mr Arthur Giles, Edinburgh; Mr J. R. Hardy, Morpeth; Sir Archibald Buchan-Hepburn, Bart., Smeaton-Hepburn; Mr J. C. Hodgson, Alnwick; Mr R. Huggup, Newcastle; Rev. James F. Leishman, M.A., Linton; Mr T. Matheson, Morpeth; Mr James Millar, Duns; Mr Benjamin Morton, Sunderland; Mr C. F. Murphy, Morpeth; Conncillor R. C. Oliver, Mayor of Morpeth; Mr W. M. Powell, London; Mr W. Mark Pybus, Warkworth; Mr T. B. Short, Berwick; Mr Jas. A. Somervail, Hoselaw; Mr W. B. Swan, Duns; Mr Edward Thew, Warkworth; Rev. Canon Walker, Whalton; Mr Joseph Wilson and Miss Wilson, Duns; Mr Thomas Wilson, Robertson; Rev. J. M. Witherow, M.A., Glasgow; and Mr D. Veitch and Miss Veitch, Duns.

On a wooded height to the South of the river Wansbeck, stands the Castle of Morpeth, before whose postern-gate on the present occasion the members assembled at ten o'clock. Though fairly representative, the company included no member of the Club who had taken part in the last excursion to this historic site in 1880, but the guide on that occasion, Mr James Fergusson, Morpeth, was happily able to renew the favour then granted, and impart his extensive local knowledge to

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Ha Hill Harpeth



SURFACE SCALE 50

50 Feet above Ordnance Datum

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SECTION ON LINE A B

ROAD PLAS 14 TL

50 Feet above OD

50 Feet above OD

Loose Burn

SECTION ON LINE C D

those present. Mr C. F. Murphy, Morpeth, also attended, and brought with him excellent drawings of the

Ha Hill. Ha Hill, the outstanding natural feature of the district. (Plates XIV. and XV.) This notable landmark on the right of the Castle occupies a position in a curiously hollowed meadow, bounded on the South by the Postern Burn, and consists of a truncated ridge of loam and black viscid clay, which terminates very abruptly on the East, but slopes gradually towards the river. In character and appearance it resembles the accumulations of drift, elsewhere known as Mote Hills and Kaimes, which in some cases have been subsequently modified and adapted by the art of man. Its upper portion is artificial and capped with rough gravel, and has been adjudged by Canon Greenwell, among others, as having been formed into a defensive position in prehistoric times, though there is little or no evidence to determine the precise period of its occupation. Its title suggests its adoption as a seat of judgment in early times, and allies it with the Mote Hills of Northumberland and notably those at Elsdon, a particular account of which may be obtained in the Proceedings of 1881.*

While assembled in front of the gateway-tower of the ancient fortress, whence an extensive survey of the thriving market-town and the surrounding country could be obtained, the party were favoured by Mr Fergusson with an exhaustive account of the origin and history of this feudal stronghold. He stated that the ascription of the foundation of the Castle to the first Baron de Merlay, to whom the barony had been granted by William the Conqueror, was discounted in his view by the facts that the Conquest of England did not extend farther North than the river Tees, and that the district now known as Northumberland was not included in Domesday Book. Not till the reign of Henry I. was the farther portion of Northumberland subjected to Norman institutions and government, so that probably the later date, 1129, suggested by more reliable authorities, is worthier of acceptance as the time at which the Castle was erected. The original barony consisted of a

* Ber. Nat. Club, Vol. ix., Pt. III., pp. 538-542.

continuous strip of land, stretching from the Tyne to the Coquet. On the North bank of the former it began with Walker, recently incorporated with the city of Newcastle, and thereafter expanded Northward so as to include the parishes of Longbenton, Stannington, part of Bedlington, Morpeth, a portion of the lands North of Morpeth and now in the parish of Mitford, and thereafter through the parish of Longhorsley to the South bank of the Coquet in the neighbourhood of Weldon Bridge. During the intervening centuries, by gifts to religious houses, alienations by way of marriage-dowries, grants to the burgesses of Morpeth, and sales, the territorial extent of the barony dwindled to a very small area of land lying within a mile or two of the site of the Castle itself. The first authentic mention of it occurs in the statement that Ranulph de Merlay, who succeeded his father William in 1129, received into his stronghold a company of monks from Fountains Abbey, for whom at Newminster he had assigned territory, on which to build a religious house for the redemption of his soul. As a family the de Merlays appear to have occupied the Castle for many consecutive years, and to have discharged their military and other feudal obligations to their sovereigns by accompanying them to their wars on the Continent, or ruling their vassals and serfs according to law and custom. To a member of this noble house, Roger de Merlay, II., Morpeth is indebted for the privilege, granted by King John in 1199, to hold a weekly market, which from that date onward to a very recent period was held continuously in the public thoroughfare. The same Roger joined the barons who wrung from the King the Great Charter, and in consequence inflicted on his dependants the necessity of setting fire to their town on the occasion of John's devastating march Northward in 1216, rather than afford shelter to him and his troops. In this incident may be found the explanation of the record that "he improved the town of Morpeth." He was succeeded by his son, Roger, the last of the family, who left two daughters, the elder of whom married William, Baron Greystock, whereby the Castle passed into new hands. Through the lack of male heirs the inheritance reverted to his aunt, Joan, wife of Lord Grimsthorpe, one

of whose descendants, Sir Ralph Fitz-Robert, assumed the surname of Greystock. It was his son, William de Greystock, once governor of Berwick-upon-Tweed, who built the Castle, of which portions are still preserved. In 1483 the male line again became extinct, and the lands passed by marriage into the possession of the Dacres of Gilsland, the last of whom died in 1659, bequeathing to his third daughter, Elizabeth, who married Lord William Howard of Naworth, his barony and Castle. As Warden of the Western Marches, he proved a formidable foe to the Scottish moss-troopers, who in derision nicknamed him "Bald Willie," though perhaps he is better known by the title ascribed to him by Sir Walter Scott, "Belted Will." Deeply interested in the welfare of Morpeth, he presented the town with a civic mace (an emblem of power, which was exhibited later in the day by its present custodian). His great-grandson was created Earl of Carlisle in 1661, and from him the Castle descended to its present owner. Prints of the stronghold, made in 18th and early portion of 19th centuries, reveal it as again neglected; but under the 7th Earl the gate was restored, and for years it has been the residence of the bailiff or steward on the Morpeth estates.

Though occupying no very conspicuous place in the annals of Northumberland, Morpeth Castle was the scene of a siege by the Marquis of Montrose in 1644, which must not be passed over.

General Leslie, in his march to Newcastle in support of the Parliamentary party, left at Morpeth, under the command of Lt.-Colonel Somerville, "a garrison too strong, and consisting of too good soldiers for so pitiful a place; for it was a ruinous hole, not tenable by nature, and far less by art." Montrose, who was with the King's forces near Newcastle, asked leave to return North and lay siege to Morpeth, where his rebellious countrymen challenged all invaders; but finding it would be impossible without cannon to reduce the Castle, he procured these from Newcastle, and after a siege of twenty days reduced the garrison to subjection. It is specially mentioned that he was forced to move his ordnance, and directed his fire against the front of the Castle from behind the great barn, part of whose walls still

remains. The indentations visible on many of the stones of the gateway are believed to have been made by him, a number of the balls used on the occasion having been since discovered amid the ruins. Within the curtain-walls may still be seen the point of the chancel gable of the church, bearing three lions passant, the arms of Henry II.

The day's time-table indicated eleven o'clock as the hour of assembling at the Parish Church, so that after a brief space spent within the garden of the Castle, members were hurried thence by the road leading from Newcastle to the North, along whose side runs the "church-peth," a raised pathway to afford those attending service immunity from prevailing mud. At a point not far distant from the entrance to the churchyard stands the "Stob-cross," at which funeral processions in the past awaited the ringing of the church

bell. A modern lichgate forms the entrance to the churchyard, which presented a very orderly and well-kept appearance. On the South wall of the church a simple dial, consisting of a bent rod of iron from four to five feet long, attracted attention, while a handsome stone cross, the base and pillar of which are old, though redressed, awakened regret that the authorities did not seem to bestow sufficient care upon it to preserve it from further dilapidation. The members were received by Canon Bulkeley, who, after a general description of the building by Mr Fergusson, supplied a few valuable notes. The church, which succeeded an older Norman edifice, some of whose remains can still be traced, dates from the year 1350, and acquired its present-day and commodious aspect in 1856, when the area was cleared out, and square pews gave place to those now in use. The chief features of interest in the chancel are the stone canopied sedilia, on whose pillars are carved figures of cherubim carrying alms, and of the devil depositing in a bag the faults committed by the priests at the altar; a low side-window on the right, regarded by some as a means of dispensing the Eucharist to infected persons, or perhaps, in view of the rubbed condition of one of its sides, an opening for the accommodation of a bell-rope, pulled by a ringer occupying a small stone ledge which was removed at the time of the

alteration of the rood-screen; two slits in the jambs of the chancel arch, one, a squint or hagio-scope for viewing the raising of the host, and the other, a cupboard; and a remarkable East window representing in five lights the favourite subject of the tree of Jesse, in which figures of Jesse, David, Solomon, and Christ, as well as of the Old Testament prophets, are depicted. The glass of the upper portion is old, but that of the lower has been restored by Clayton & Bell in 1859. The scrolls are copied from the Vulgate, and the quotations regarding the coming of Christ, as for example:—"Out of Egypt have I called My Son," are inscribed in black-letter and contracted Latin characters. The oldest window in the building stands in the South aisle. It is very delicate in colour, and represents St. Blaise, the patron of wool-combers, and St. Denis, the patron of cattle and farm-produce. A two-storeyed vestry on the North side contains in its lower room a curious recess, pierced at its head with a quatrefoil opening, which looks into the aisle of the church, and which has not as yet been satisfactorily explained. Attention was drawn also to the adjustment of the roof of the main building to meet the divergence in the width of wall and aisle, so that the brackets supporting the spandrels are sometimes on the edge of the bays in place of in the centre. A very delightful hour was spent in the inspection of the building and of many objects of interest brought under notice by Canon Bulkeley, to whom was accorded a hearty acknowledgment of his kindness.

On the invitation of the Worshipful Mayor of Morpeth, Councillor Oliver, the members drove to his private residence, Bowmer Bank, where a bountiful supply of light refreshments was provided and partaken of. For their entertainment several articles of interest in the custody of the Mayor were exhibited and explained, among them being the Town's Mace, the Civic Plate, and the Branks, an ancient instrument of female castigation. With regard to the first of these, the office of Mace Bearer in Morpeth seems to have been a very old one. Prior to the formation of a Municipal Council, the office was known as that of Sergeant-at-Arms. He was servant of the bailiffs, who formerly governed the

town, and was elected by them annually. His duty was to keep the Mace, and by order of the bailiffs to summon the Freemen to attend meetings. He also was required to fix the Seal of the Corporation to such deeds as required it, and to deliver all summonses, and execute all processes, of the Borough Court. After the Reformation Act, and the incorporation of the Municipal Borough, these duties of the Sergeant devolved upon the Mayor's Messenger. The Mace itself is composed of silver, with a rounded gilt head, on which are inscribed the arms of the town, as well as of those following:— (1) England, during the reign of James I.; (2) Howard, quartering Brotherton, Mowbray, and Warren; (3) Thomas Plantaganet, surnamed "de Brotherton"; (4) Thomas de Mowbray, 12th Earl of Mowbray and 1st Duke of Norfolk; (5) John de Mowbray, 5th Duke of Norfolk; (6) Merlay, Barons of Morpeth; (7) Dacre, Lords of Gilsland; (8) Greystock; (9) Grimthorpe; and (10) Howard. It was presented to the town in 1604 by William, Lord Howard, and remains in the custody of the Mayor, along with a silver punch-bowl and ladle belonging to the ancient bailiffs. Much interest was evinced in the specimen of the Branks, which was also on view, and had been in use for the restraining of members of the fair sex flagrantly addicted to the abuse of their neighbours. Though a barbarous instrument, consisting of a hoop of iron enclosing the head, and attached to another which covered the mouth, and thereby supplied a bridle for the "unruly member," it possesses traces of the skill and taste of the craftsman in a chaste ornamentation of the end of the clasp, where it was padlocked by the representative of law and order. With reference to the "Patent of Arms of the Borough of Morpeth," it is stated that the figure in the Patent is intended to represent William Henry, Norry King of Arms in the reign of King Edward VI. The arms are based upon those of Sir Roger de Merlay, the founder of the ancient Corporation of the Bayliff and Burgesses of Morpeth, and who obtained for the Borough the privileges enjoyed under their charter. Having done full justice to the ample provision of their host and hostess, and smoked a pipe of peace in spite of frequent reminders of ill done by vengeful Scots to the fair Borough, whose motto—"Inter sylvas et

flumina habitans"—suggests a harmless and unobtrusive carriage, the members on the call of the President accorded a hearty vote of thanks to the Mayor and his lady for their successful endeavour to render the Club's visit pleasant, and rich in historical reminiscence.

Resuming their seats in the brakes, which were in waiting, the party drove off to the site of Newminster Abbey, proceeding by what is locally known as the "Dogger Bank," without any untoward incident or mishap! There, on a rising ground in the centre of the grass-covered ruins, amid charming sunshine, and with a sense of replenishment, the members ranged themselves, and listened to a graphic account by Mr Fergusson of the historical incidents connected with the Abbey, and to a no less minute description of its ruins. Unfortunately very little of its original proportions can be traced, the walls having been levelled, and made use of, as in so many other instances, as a convenient quarry for the construction of new buildings in the neighbourhood. It is called the first daughter of Fountains in Yorkshire, whither its founder, Ranulph de Merlay, had repaired "to behold the conversation of the brethren"; and being greatly impressed with the purity of their Order was led "under the inspiration of God to assign a certain place in his paternal estate" for their use and benefit. This he did in 1139, when on his return he gave a part of his estate for the maintenance of a brotherhood of the same Order, and laid the foundation of a monastic house on the plan of the famous Yorkshire Abbey. Its main features are Norman in design, consisting of nave and choir, and North and South transepts, as a rule proportionately short. The choir has been recently enclosed with a strong rail; and during excavations made in it, in 1875, there were discovered the site of the high altar, and the tomb of St. Robert, the first Abbot. On the South of the nave lay the cloister-garth, and on the West an annexe of divergent architecture, after the manner of the well-known Galilee in Durham Cathedral. On the North stands the only remaining archway over a doorway of the church, but it seems to be a late insertion of the 14th century. Only eight monks formed the fraternity at the foundation of the Abbey,

though that number would be afterwards greatly increased. The site of the conventual buildings, though by no means conspicuous, is raised above the level of the Wansbeck, in whose valley it nestles under what are known as the Abbey Banks, necessitating a scheme of drainage and a water-supply of an artificial character. About a mile and a half higher up the river a weir or dam was constructed, from which a large flow of water was led in an open ditch, part of which is still traceable alongside hedges dividing the fields on the banks of the river, till it reached the confines of the Abbey, where a handsome culvert of ashlar work, lately discovered near a solitary ash standing within the grounds, led it round the outside of the buildings, thus providing a channel for the thorough maintenance of sanitary conditions. Thereafter it emptied itself into the river. On its passage to the Abbey it is believed to have fed the fish-ponds. The supply of drinking water was procured from the wooded banks on the hillside to the South, traces of the method of its conveyance having been found within the curtain-wall, where tanks of oak and lead still lie buried. In the neighbourhood of Alwinton, at the junction of the Coquet and the Alwine, is situated Kidland, bequeathed to the Abbey by the Lord of Felton, who "gave right to eatage" on condition that all dogs employed in the shepherding of the flocks should be "lawed," that is, maimed in one limb, to prevent their pursuit of game. To the wilds of Kidland Lea, also, erring brethren of the Order were habitually transported in order to "recover their souls." The lands of the Abbey were rich and extensive, stretching along the Wansbeck and the Coquet, and comprising pits for the extraction of sea-coal; salt works at the mouths of the Blythe and Coquet; fisheries in the Tyne; and a peat-moss at Edlingham. By reason of its propinquity to the old North road from Newcastle, the Abbey was often honoured with Royal visits, which proved so burdensome that the monastic exchequer frequently gave out, necessitating in one instance at least an application to King John for what would be termed in the present day "an augmentation." An additional strain was put upon their resources also by the many hostile invasions made by the dreaded Northern hosts, whose approach to the object of their desire would be made by the ravine

on the North bank of the Wansbeck, now familiarly known as Scotch Gill. The monastery was dissolved in 1535, when its revenues were apportioned by succeeding Sovereigns among the proprietors of the adjacent lands.

Leaving the grounds of Newminster by the High House lane, and noting the great outside chimney attached to one of the Abbey cottages, the party resumed the drive to Mitford along the course of the Wansbeck, which receives near the village of that name the waters of the Font, spanned by a single-arched bridge. This hamlet, consisting of only a few cottages, is said to have at one time outstripped Morpeth in

Mitford Castle.

importance, and certainly its neighbouring fortress suggests the likelihood of a considerable population having settled here. This formidable stronghold, raised on an eminence to the South of the road, owes its origin to William Bertram, the founder of Brinkburn Priory, and was built by him in the twelfth century. Though now only a frowning ruin, encircled by walls which afford protection to a peaceful orchard, Mitford Castle played its own part in the eventful centuries that followed its erection. Most of all did it suffer at the hands of the marauding Scots, who in 1216 and 1318, under the leadership of their Kings, Alexander II. and III., besieged and dismantled it, leaving it in such a state of hopeless ruin as to compel its lords to forego any attempt at restoration. The family, taking their name from the place, can trace their history from a period as remote as the time of Edward the Confessor, and though for a time dispossessed in consequence of political intrigue, they were favoured by Charles II., and reinstated in their ancient patrimony. The fact of their occupancy of the lands of Mitford is strikingly attested at once by this feudal stronghold, by a Jacobean Manor-house, and a modern Mansion on the North side of the public road, each of them bearing the family name. The second of these consists of only a two-storeyed battlemented tower with six-light windows, over the arched entrance of which are carved the arms of the family, and the date 1637. A portion of the hall has been transformed into a cottager's dwelling, permission to enter which was obtained to view the old dog-spit at the side of the stately fireplace of the kitchen.

Before entering the grounds of the Mansion-house, the party were met by the incumbent of the parish, Rev. R. C. McLeod, who kindly escorted them through the restored Norman church, and recounted the many alterations which had been made upon it through the munificence of the late Colonel Osbaldeston Mitford, who had in recent times restored or renovated it. As is evidenced in a rich moulding of chevron and cable pattern on the South doorway, the original building belonged to the Norman period, the date of its foundation being ascribed by Canon Greenwell to 1140. Before the addition of the Mitford Chapel, in which Holy Communion is celebrated on week-days, a Norman buttress supported the wall, while beneath the ivy now covering it was discovered an ancient double-headed corbel. The church consists of an enlarged and lofty nave, with modern clerestory and South aisle, and an early English chancel, in which has been erected a beautiful reredos from Bruges. Under the range of lights on the South is inserted a small lancet opening, which may have done duty for the leper's window. At the West end of the church there has been raised a graceful tower and spire, into whose belfry a chime of bells, rung by machinery, has lately been introduced. In the vestry on the North, entrance to which is obtained through a doorway of date 1622, there is preserved the original church bell, believed to be six hundred years old, which possesses the peculiarity of being unusually long in comparison with its breadth. A fine freestone monument in the chancel adorns the burying-place of Bertram Reveley, "Bartram to us so dutiful a son," who died in 1622; and a richly stained glass window by Kemp, dedicated by his nephews and nieces to the memory of their uncle, John Philip Osbaldeston Mitford, who died 27th Nov. 1895, fills an honoured place.

Proceeding to the grounds of Mitford, the party were agreeably surprised to learn that in view of the labours of the day, all of which had proved pleasant, if somewhat exhausting, afternoon tea had been thoughtfully provided by the proprietor. Under a splendid Chestnut tree, whose pendulous spreading branches had taken root, and entirely screened the members

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SYCAMORE, MITFORD CASTLE.

from the sun, Mrs Osbaldeston Mitford graciously superintended this much appreciated refection, and ministered to the wants of everyone. Nothing at that moment could have better rounded off the day's excursion. Time did not permit of any inspection of the policies; but special note was taken of a fine specimen of *Pyrus torminalis* in the grounds, and of a noble Sycamore (Plate XVI.) on an elevated slope to the North of the Castle, which measured 18 feet at 5 feet from the ground, and whose extensive foliage covers an area of 100 yards, with a diameter of about 33 yards.

The return journey, for which half-an-hour was allowed, lay along the road running South, which, after passing Mitford Steads, joins the main road from Belsay, and leading by Morpeth Common makes a straight course for the town. Owing to the ascent from the sequestered dale of Mitford to gain the highroad, a fine expanse of agricultural country disclosed itself, and a more accurate estimate of the strength of the position occupied by Morpeth Castle could be made,

as the whole valley of the Wansbeck was seen to be commanded by it. At four o'clock **Club Dinner.** dinner was served in the Queen's Head Hotel, under the presidency of Mr Wm. B. Boyd, who had on his right and left as guests the Mayor and Mr James Fergusson, to whom the Club were specially indebted for services rendered throughout the day. The usual toasts were given, and the health of the guests was cordially pledged.

The following were nominated for election:—Miss Jessie B. Boyd, Faldonside; Mr Edwin A. Mallett, Berwick-on-Tweed; Mr Richard Brown, Hangingshaw, Selkirk; Mr John Henry Mansfield, Howick; and Mr Joshua Patterson Ross Taylor, Mungoswalls, Duns.

Owing to the distance of the rendezvous from the residence of many Scottish members, and the early start necessitated to catch the South-going train on the day of the excursion, a number availed themselves of the accommodation advertised in the Queen's Head Hotel, Morpeth, and spent the preceding

afternoon in the neighbourhood of the town. In the course of a charming saunter along the banks of the **Bothal Woods.** Wansbeck, as it flows Eastward through the romantic woods of Bothal, which, through the generosity of the Duke of Portland, are always open to the public, one or two members of the Club occupied themselves in exploring a path, at times precipitous and dilapidated, but for the most part easily traversed, which leads through the Lady Chapel Wood onwards to Bothal, three miles distant from Morpeth. The ruined chapel, which gives its name to the wood on the North bank of the river, was built about the middle of the 15th century by the first Lord Ogle, and dedicated to Our Lady. It measures internally 21 feet by 12 feet, and is composed of dressed freestone. The roof had consisted of stone slabs laid on huge ribs, as may be seen at Bellingham and Ladykirk. On the West side, under a pointed arch, flows "Ye Jubilee Well, 1887," and on the East side the Lady Well, above which has been cut out of the face of the sandstone an escutcheon bearing the motto:—"Fidelis servus." Bent on examining the district in respect of its flora, the party were greatly interested in identifying many of the plants already reported, and were able, in addition to those familiar in the Northern district of the Club's operations, to record the following:—*Brassica campestris*; *Erysimum orientale* (introduced: probably from mills in town); *Hypericum quadrangulum* var. *tetrapterum* (Fr.); *Eupatorium cannabinum*; *Pimpinella magna*; *Myrrhis odorata*; *Cherophyllum temulum*; *Campanula latifolia*; *Stachys Betonica*; *Symphytum officinale*; *Lysimachia vulgaris*; *Arum maculatum*; *Carex pendula*; *C. sylvatica*; *Melica uniflora*; *Bromus asper*; and *Triticum caninum*.

As the same members were forced to remain in Morpeth overnight, they took advantage of the kind invitation of Mr Thomas Matheson, Morpeth, which, had time permitted, he would have gladly extended to the Club, to visit his well-stocked Nurseries, and inspect his collection of curios and antique furniture. A very pleasant hour was thus spent, the waning of daylight alone determining the hour for the return home.

DUNGLASS.

THE FIFTH MEETING of the season was held at Cockburnspath, on Wednesday, 20th September, when sunshine greeted the members as they assembled at the Railway Station *en route* for Dunglass. Among those present were:—Captain Norman, R.N., Organizing Secretary; Rev. J. J. M. L. Aiken, B.D., Editing Secretary; Mr J. Albe, Duns; Mr George G. Butler, Ewart Park; Mr Robert Blair, South Shields; Colonel A. M. Brown, and Miss Brown, Longformacus; Mr John Cairns, Alnwick; Mr C. L. Stirling-Cookson, and Mrs Stirling-Cookson, Renton House; Mr James Cross, London; Rev. G. V. Dunnett, Cockburnspath; Mr Allan A. Falconer, Duns; Mr John Ferguson, Duns; Misses Gair, Abbey Park, Coldingham; Mr Gideon J. Gibson, and Miss Gibson, Netherbyres; Mr John Geddie, Edinburgh; Mr Arthur Giles, Edinburgh; Mr J. G. Goodechild, Edinburgh; Mr Geo. Hardy, Oldcambus E. Mains; Miss Hay, St. Abb's; Miss Heyder, Northfield, St. Abb's; Mr J. C. Hodgson, Alnwick; Mr Jas. Hood, Linnhead; Mr James Lyle, Edinburgh; Major J. Farquharson, Edinburgh; Mr Henry Rutherford, Fairnington; Mr T. B. Short, Berwick; Miss Simpson, Coldingham; Mr Jas. A. Somervail, and Mrs Somervail, Hoselaw; Mr J. A. Terras, Edinburgh; Mr John Turnbull, Galashiels; and Mr Wynward Warner, London.

To suit the arrival of members by rail, the rendezvous was fixed for Cockburnspath Station at 9-10 a.m., whence, in the face of an unusually bitter wind but under a glowing sun, the party set out for Dunglass Dean, following the main road to Edinburgh, with the view of reaching it by the Merse Lodge.

Dunglass Dean. From this point the path leads through its Eastern portion along the rocky channel of a small stream, which here bounds the counties of Berwick and East Lothian, and the parishes of Oldhamstocks and Cockburnspath. In the course of their ramble through its sylvan shade, at times illumined by streaks of sunlight adding charm to the autumnal aspect of the leafy canopy overhead, the members were impressed with the luxuriance of many of the characteristic Ferns of the locality, the Mountain Fern (*Lastrea Oreopteris*), the Hart's-tongue (*Scolopendrium vulgare*), and varieties of the Prickly Shield-fern (*Aspidium aculeatum*), attaining very remarkable dimensions, fronds of Hart's-tongue, 16 inches in length, and of *Aspidium aculeatum* var. *angulare*, from 2 to 3 feet in length, having been gathered. Among less conspicuous plants were Enchanter's Nightshade (*Circea lutetiana*); Mountain Speedwell (*Veronica montana*) discovered here in 1800 by Dr Parsons; Yellow Pimpernel (*Lysimachia nemorum*); *Carex remota* and *C. muricata*. A look-out was kept for the Bird's-nest Orchis (*Neottia Nidus-avis*) already reported, but owing probably to the advanced season of the year it was not met with. At points on the route, which is for the most part precipitous, charming prospects were obtained, as beneath the shade of clean-limbed Beeches, some of which have attained a height of 100 feet, and many a girth of 8 feet, the sparkling water babbles towards the sea. Attention was drawn to a curious section of sandstone, remarkably weathered and studded with nodules of iron, as may be seen also on the coast near Bilsdean and Marshall Meadows, which rears itself in threatening fashion on a level with the stream, not far from the bridge by which the visitors crossed to the opposite bank. At this point they ascended by a steep zigzag path to the ridge above, whence the remarkable proportions of some of the Scotch Firs, which had already been noticed, could be more accurately estimated.

Retracing their steps by this cleverly engineered pathway the members soon reached the site of the modern Mansion, beautifully situated on an overhanging cliff overrun with planted St. John's Wort and Periwinkle. In front of the staircase leading from the main floor a fine flower-garden has been designed, to the South of which rises the Camp-hill, clad with Rhododendrons and hardy shrubs, whence in the clear air of the Autumn noon an extensive view of the Bass Rock and the Dunbar coast-line was greatly enjoyed. On this grassy eminence, which has been supposed by some to have been the original site of Dunglass, there has been erected a substantial summer-house of stone, on which is graven the crest of the Halls and the date 1718, beneath which runs the legend:—"Cura quietem." So suggestive of rest and reflection was this hill-top, that the party gladly prolonged their stay, rejoicing in the glorious sunshine and the wide prospect of shore and sea, which the keen air rendered conspicuously crisp and charming; but at the call of their leader, ever anxious to maintain punctuality, they descended in due course to the garden to the West of the Mansion, and viewed the well-stocked borders, noting in particular the fine display of *Nemesia* and *Phlox Drummondii*. Among trees that attracted attention were a splendid example of the Sweet Chestnut (*Castanea sativa*) on the West side of the Dean and within sight of the Mansion (girth 13 feet 5 inches at 5 feet from the ground); a handsome Chili Pine (*Araucaria imbricata*) on the West of the main approach, which was presented by William Hay, Esquire, of Duns Castle in 1842, and has attained an approximate height of 52 feet (girth 5 feet 8 inches at 5 feet from the ground); a commercially famous Sycamore (*Acer pseudo-platanus*) on the East of the carriage-drive, which bears the title of the "Tron Tree," a lower limb having been used in the days of the public fair, held in the village of Dunglass, for the purpose of weighing the goods brought thither for sale, (girth 10 feet 10 inches at 5 feet from the ground); and a graceful Silver Fir (*Abies pectinata*) on the East of the church of Dunglass, among whose branches Traveller's Joy (*Clematis vitalba*) was revelling to a height of thirty feet. In front of the Mansion-house stood a remarkable clump of English Yews

(*Taxus baccata*), one member of which measured 8 feet 6 inches at 4 feet from the ground; and in the same neighbourhood flourished a very large Holm Oak (*Quercus Ilex*) bearing acorns, whose branching habit confirms Loudon's description of its appearance, "even when fully grown, it is that of an immense bush, rather than that of a timber tree."

The chief object of antiquarian interest is the wonderfully preserved ruin of "the Colledge Kirk of Dunglass," whither the members wended their steps in response to an invitation by the Editing Secretary, who read a descriptive paper under the shelter of its massive and still perfect roof. In spite of ravages made upon its Eastern wall, to admit,

Dunglass Church. it is said, of the housing of the family-coach in former days, the Church retains a complete outline of its original dimensions, with its choir,

nave, and tower, its North and South transepts and side-chapel, and its imposing roof, constructed of regularly shaped, overlapping slabs of stone. The total internal length is 90 feet 8 inches, while that of the cross-arms is 63 feet. Its foundation is generally ascribed to Sir Alexander Home of Home, the son of Sir Thomas Home, who married Nicola Pepdie, the heiress of Dunglass, and whose coat of arms, consisting of a lion rampant for Home, impaling three popinjays for Pepdie, may be seen near the North transept window. The precise date of its foundation has not been determined, varying periods from the beginning to the middle of the fifteenth century having been suggested. The building being cruciform may be conveniently treated in the order of its parts. The choir, which like all the other portions is roofed over by a pointed barrel-vault of stone, measures 33 feet 3 inches in length by 17 feet 9 inches in breadth, being 6 feet 9 inches shorter and 2 feet 3 inches narrower than the nave. It is flanked on the North by a side-chapel or sacristy, 19 feet 3 inches by 13 feet 7 inches, which is entered by a low-centred arch, on whose walls are four consecration crosses opposite each other, and under whose Northern window is built a sepulchral recess. By far the most noteworthy feature of the choir, however, is the sedilia in the South wall, which is fairly intact, and contains the customary triple seat, indicated by three ogee crocheted

arch-heads, the outer arches resting on carved capitals at each end, and the intermediate ones on corbels supported by angels. East of the sedilia, and under the Southern window, which contains a double light in massive tracery, there seems to have stood a piscina supported on a shaft from the floor; and adjoining it on the East wall may be observed a projecting corbel with a shield on its face, which may have served to support an image or a light in connection with the altar. The plan of the piers supporting the tower, which is divided into three stages internally, is unusual. While the two next the choir are in a line with the Eastern walls of the transepts, the corresponding two next the nave *stand out* from the angle of the nave and transept walls, to which they are attached by a narrow strip of masonry, thereby throwing the tower considerably off the centre of the transepts, and reducing its width in comparison with the other limbs of the cross. The occasion of this divergence is not at first sight obvious, but has been accounted for by the conjecture that the choir and tower were first constructed, and that afterwards, when it was determined to complete the building by the addition of a nave and transepts, it was considered advantageous to increase their width. The piers of the crossing are simply splayed and notched on the inner diagonal faces, and are all alike; but the arch-faces or mouldings vary, those of the nave and transepts corresponding with the piers, while the choir arch is moulded on both faces, and springs from carved and moulded capitals. The splayed base of the piers is omitted on the chancel side. The South transept has been railed off as the burying-place of the Halls of Dunglass. The nave, which has been denuded of all ornamentation, having had the tracery of the windows entirely destroyed, is entered by doorways on the North and on the South. These are round-arched with moulded jambs, in contrast with the other doors in the choir and South transept, which are plain with lintels. At the spring of the roof may be traced a row of recesses, which may have been designed for the beams of the floor of one of the granaries in use during the eighteenth century, when the entire building is alleged to have been "employed in a great variety of uses." It is certain that a graveyard

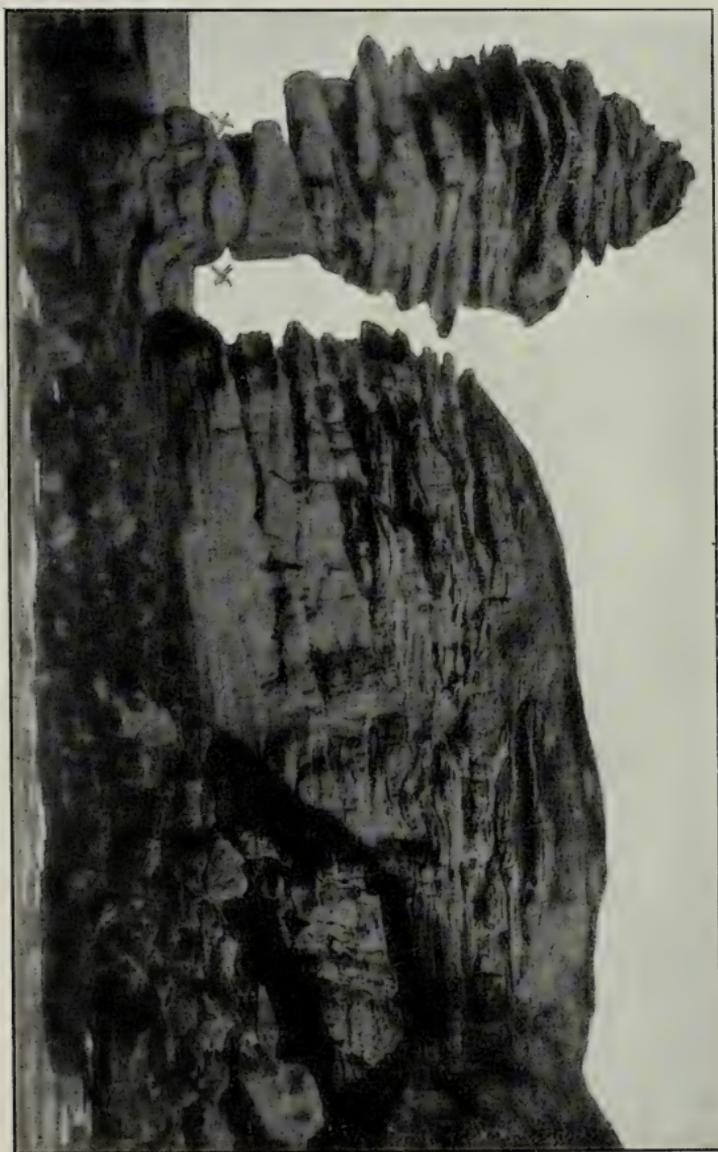
adjoined the church, but the stones belonging to it have wholly disappeared, perhaps to provide building material elsewhere, or to allow of the cultivation and improvement of the adjacent ground. For many of the points of interest referred to, the Secretary intimated his indebtedness to a paper lent by Rev. Joseph Hunter, senior minister of Cockburnspath, which had been prepared by Mr Thomas Ross, F.S.A. (Scot.), one of the joint authors of "Castellated and Ecclesiastical Architecture of Scotland." During their examination of the building the party were joined by Sir Basil and Lady Hall, who afforded them interesting information regarding some of the natural features of the grounds, and to whom a vote of thanks was accorded for their kind permission to inspect them.

It now appearing that refreshment was requisite, a move was made towards the East Lodge, where water could be obtained; and lunch was partaken of on the neighbouring bridge, which spans the burn by a single arch at 90 feet from its bed, and forms the junction on the main road of the counties of East Lothian and Berwick. Nearer the sea, and within sight of this modern structure, stands a very ancient and picturesque bridge crossing the same water, the intervening ravine being beautifully wooded on both sides, and providing a charming vista. On the West of the Lodge two specimens of the Cluster Pine (*Pinus Pinaster*), and a healthy clump of *Thuja occidentalis*, var. *Verveneana*, were noted. Moving Westwards along the road a few hundred yards, the attention of the members was directed by Captain Norman, R.N., to six specimens of the Stone Pine (*Pinus pinea*)

Pinus bearing fruit, which are remarkable for having
pineae. attained maturity in this Northern latitude, their natural habitat being the shores of the Mediterranean, and for their having escaped the notice of so observant a naturalist as the late Dr Hardy, who must have passed and repassed them times without number. To our late Treasurer, Mr George Bolam, is due the credit of discovering them, and, with the aid of a reference to Kew, establishing their identity. From a paper already published,* it will be seen

* Ber. Nat. Club, Vol. xix., Pt. II., pp. 173-7.

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“STAND-ALANE,” BILSDEAN, COCKBURNSPATH.

that they are the most Northerly examples of their kind in the British Isles, and that the theory of their preservation lies in their having been surrounded at the time of planting with a shelter of Privet, etc., which, together with the protection afforded by the railway embankment, enabled them to be fairly established before being exposed to the Northern blasts that must now assail them. They have, through stress of circumstances, lost their characteristic *umbrella* habit, but retained the deep green colour and bunched feature of their spines. The tallest of them does not exceed 30 feet in height.

From this point the route lay Westwards through Bilsdean, the birthplace of the late Dr Hardy, and the scene of his early school-days, to a road leading by the burn of the same name to the shore, where Mr J. G. Goodchild, F.G.S., offered some remarks regarding the rock formation, which consists to a large extent of calciferous sandstone. It was intended that members should have a choice of courses from this point back to Cockburnspath, either to proceed along

the coast and examine the striking landmark, **Stand-alane**, already described and figured in the Proceedings,* or to retrace their steps along the coast in the direction of Cockburns-

path. Unfortunately time did not permit of the former alternative being adopted, which is all the more to be regretted now, seeing that no further opportunity of viewing this towering rock-pillar is possible, the storm of 12th March 1906 having demolished it, and left only a stump, indicated in Plate XVII. of this volume. One of the oldest inhabitants of the village, Mr John Malcolm, notified its destruction in these sad and affectionate terms, "Our grand old rock has fallen"; and to his enterprise is due the peculiarly effective representation of it in juxtaposition with the overhanging cliffs of the mainland. Selecting the shorter and more direct course, the party followed the coast-line towards Reed Bay, where *Glaucium luteum* still covers a considerable area, and *Carex extensa* occurs in small quantity. At the mouth of Dunglass burn large bushes of *Hippophæ rhamnoides*

* Ber. Nat. Club, Vol. xv., pp. 44-45, Plate VII.

face the Northern Sea, and quantities of mountain boulders, swept down by torrents and rendered tough by immersion in salt water, have lately been collected and removed by contractors for county road-metal. The examination of the shore as well as the rate of progression were facilitated by the fact that the tide was out.

A delightful excursion was brought to a close by the members dining in the Cockburnspath Inn at 4 p.m., under the chairmanship of Captain **Club** Norman, the only ex-President present on the **Dinner.** occasion. In the course of the dinner a telegram from Mr Wm. B. Boyd, President, was read, in which he expressed his deep regret at being unable to attend owing to sickness, and wished them a successful meeting. The usual toasts were duly honoured. An iron nail, found in a ditch at the Roman Fort at Newstead, was exhibited by Mr T. B. Short, Berwick.

BERWICK.

THE ANNUAL BUSINESS MEETING was held at Berwick on Thursday, 12th October, when there were present:—Mr Wm. B. Boyd, Faldonside, President; Rev. J. J. M. L. Aiken, B.D., Editing Secretary; Mr W. J. Bolam, Treasurer; Misses Aiken, Ayton; Mr G. G. Butler, Ewart Park; Mr Gideon J. Gibson, Netherbyres; Mr Arthur Giles, Edinburgh; Mr J. G. Goodchild, F.G.S., Edinburgh; Mr G. P. Hughes, Middleton Hall; Mr William J. Marshall, Berwick; Major James F. Macpherson, Edinburgh; Dr James McWhir, Swinton; Mr Henry Rutherford, Fairnington; Mr T. B. Short, Berwick; Mr J. A. Terras, Edinburgh; Mr Wm. Weatherhead, Berwick; and Rev. N. M. Wright, Ancroft.

An apology for absence was made in behalf of Captain Norman, R.N., Organizing Secretary, whose medical attendant forbade his venturing out of doors for the present. The circular calling the meeting intimated a visit to the Church of the Holy Trinity, Berwick, which would be conducted by the Organizing Secretary at noon; but in his unavoidable absence the party who assembled were under the guidance of Rev. O. W. Owen, whose services Archdeacon Hodgson had courteously offered, as, being forced to leave town that day, he could not tender his own.

We have pleasure in quoting from a recently published Official Guide to the Fortifications of Berwick by **Church of the Holy Trinity.** Commander F. M. Norman, R.N., the following references to this interesting Church, which was built mainly with stones from the Castle, projected in 1641 (Charles I.), begun in 1650 (Cromwell), and opened in 1652:—“The style of architecture ‘by courtesy’ is Italian: with more precision ‘A corrupt development of the Italian Renaissance style with a slight Gothic admixture.’ Mr Philip Norman, Treasurer of the London Society of Antiquaries, has kindly sent me the subjoined extract from Blomfield’s History of Renaissance Architecture in England (1897), an authoritative work:—‘A similar mixture of styles (Renaissance and Gothic) occurs in the church of Berwick-on-Tweed, built by Colonel Fenwicke (Governor 1648-52). This Church has a nave, and north and south aisles. The nave arcade has plain semi-circular arches brought down without any entablature upon the abaci of Tuscan columns; but the clerestory windows have three lights, the centre light stepped up above the two side lights as at St. Catherine Cree’s. There is no tower, but two octagonal turrets at the west end. In this case it almost seems as if the Church was begun by a mason with classical tastes, and finished by one who preferred the Gothic.’ The Church of St. Catherine Cree above mentioned, in Leadenhall Street, London, is very much like ours, and was built at the same time. Originally ours had no chancel, the existing one, as well as the vestry, having been added in 1855; and to this day there is no tower, because the design never provided for one, though it is said to have included a low Dome between the turrets, which was not put up, perhaps from want of funds. This is believed to be the only Church in the Kingdom whose bells are rung in the Town Hall, one of the first duties of a new Vicar being to proceed in his surplice to that edifice and by a few strokes to establish his right to his share in the use of its bells for purposes of Divine worship. Inside, the prospect is decidedly pleasing, an immense improvement having been effected by the removal of two galleries and the addition of an organ-chamber in 1905. The Register dates from 1574, and the oldest memorial

is that to Colonel Fenwicke, 1656. The large recess, or second north aisle with its elliptical arch, is peculiar, and may have been inserted at the time of building as an after-thought. It contains the Colour of the old Independent Berwick Volunteers, raised in 1797, being a specimen of a First Union Flag (1606-1801), which displays the red cross of St. George on a white ground in combination with the white cross or saltire of St. Andrew on a blue ground. In 1801 that flag gave place to the existing, or Second Union Flag (our 'Union Jack'), in which Ireland is represented by the saltire of St. Patrick, red cross on white ground. This old banner, therefore, has a special interest."

Before leaving the Church the members availed themselves of the opportunity of doing honour to the memory of the Founder of the Club, George Johnston, Esq., M.D. (Edin.), whose memorial tablet in white marble, surmounted by a pleasing bust of himself, occupies a space on the wall of the North aisle of the building. Only one of the party could claim to have had his personal friendship, namely the President, whose membership in the Club ante-dated by two years the year of his decease, 1855. To one acquainted with him only through his charming "Natural History of the Eastern Borders," so rich in evidence of his devotion to Nature and her treasures, which, as he testifies in his introduction, "at once adorn and relieve the toils and vexations of a busy life, and refine and exalt the enjoyments of a social one," it was a pleasure to look upon his countenance as modelled by the sculptor, and inhale his devout and earnest spirit as voiced in the sublime utterance which subjoins the medallion:—"The works of the Lord are great; sought out of all them that have pleasure therein." Psalms, CXI., 2.

At one o'clock the members assembled in the Museum, where the President delivered his retiring address, choosing for his subject "The history of the Snowdrop (*Galanthus* L.)." At the conclusion of an exhaustive dissertation upon the classification and characteristics of its numerous varieties, he briefly referred to the loss sustained by the Club during

Business Meeting.

the year through the death of eight members, whose names have been removed from the roll; and nominated as his successor in the chair, Mr John Crawford Hodgson, F.S.A., Alnwick. On the motion of Mr G. G. Butler, who spoke of Mr Boyd as a botanist who, in place of plundering Nature of her treasures, had for more than fifty years contributed to her store, a hearty vote of thanks was accorded to the President for his Address and genial courtesy to the members at their various meetings throughout the year. The motion was seconded by Mr G. P. Hughes.

A pleasant interlude to the Business proceedings was afforded by the presentation of an illuminated **Testimonial** address and accompanying purse of sovereigns to Mr J. G. Goodchild, F.G.S., Royal Scottish Museum, Edinburgh.

In making the presentation the President explained the motive which had prompted it in the following terms:—"I now reach the last of my duties as President of this Club, and I am glad to say it is by no means the least pleasant one. From the recent circular addressed to you, you have learned of our desire to do honour to our Corresponding member, Mr J. G. Goodchild, who is so favourably known among the members of our Club. He is an earnest and up-to-date geologist, who, besides devoting much time to the study of his subject, spares himself no pains to impart to others the results of his research; and with this object in view, he has willingly attended many of our Field Meetings in recent years, and by means of diagrams, maps, and the like, of his own construction, has supplied much fresh and interesting information regarding the geological formation of our district, both on the sea-coast and in the interior, thereby placing the members under deep obligation to him. Many have spoken to me of the benefit derived from his addresses; and I can say for myself that I have rarely listened to any lecturer who could so clearly explain in popular language such abstruse and complicated scientific problems as he has been in the habit of doing. The response to the circular has put me in the proud position of being able to offer him this purse of sovereigns from the members of the Club; and it gives me the greatest

pleasure, as their mouthpiece, to ask his acceptance of it as a small acknowledgment of the manifold services rendered by him to the Club, and as an expression of their good wishes for his continued success in his professional work." Mr Goodchild feelingly acknowledged the kindness of the members, and sketched what might yet be done by the Club in the elucidation of other geological features of the district included in the area of their investigations.

The following new members were elected after due nomination:—Lt.-Colonel Charles Thompson Menzies, **Election of** Kames, Greenlaw; Thomas Leslie Asher, 8 **Members.** Whitehouse Terrace, Edinburgh; Mrs (Essex) Thompson, Walworth Hall, Darlington; William James Bolam, Berwick-on-Tweed; Rev. Percy Thomas Lee, Shilbottle Vicarage, Lesbury; Charles W. Dunlop, Embsaykirk, Skipton-in-Craven; Richard Brown, C.A., The Hangingshaw, Selkirk; Miss Jessie B. Boyd, Faldonside, Melrose; Edwin Arthur Mallett, 17 Quay Walls, Berwick-on-Tweed; Joshua Patterson Ross Taylor, Mungoswalls, Duns; John Henry Mansfield, Howick, Lesbury; Harry Sanderson, Eastmount, Galashiels; Rev. William Steven Moodie, Ladykirk, Norham; Rev. George Victor Dunnett, B.D., Manse of Cockburnspath.

It was unanimously agreed to appoint Mr William James Bolam, Berwick-on-Tweed, to the office of **Election of** Treasurer, rendered vacant by the departure **Treasurer.** from Berwick of Mr George Bolam, F.Z.S., who for many years had proved a valuable member of the Club, and a faithful and zealous office-bearer.

The financial statement for the year was read by the **Annual** Treasurer, and the subscription for 1905-6 was **Reports.** fixed at seven shillings and sixpence. The names of eighteen members were removed from the Roll, their subscriptions for two years and upwards being in arrear. A summary of the meetings of the year was read by the Editing Secretary, in which he referred to pleasant excursions made to Edinburgh; St. Boswells for Langmoss and Newstead; Howick; Morpeth for Mitford; and Dunglass. Mr Arthur H. Evans, M.A., F.Z.S.,

Cambridge, was reappointed Delegate to the British Association. The following places were selected for next year's excursions:—Sweethope, Northumberland; Whitadder, between Elba and Abbey St. Bathans; Wooler for Langley Ford; Chillingham; St. Abbs, or Crichton and Borthwick Castles, Midlothian.

There were read Notes by Captain Norman, R.N., (1) on a British Cist, recently discovered on the apex of Halidon Hill, somewhat nearer Brow of the Hill than Camphill, and containing five skulls and a number of long bones; and (2) on a section of a Pile of the ancient wooden Bridge of Berwick, erected about 1358, and destroyed by flood in 1607, which had recently been rendered visible a short distance above the existing bridge. A transverse section of the above, and a plan showing the point at which it was discovered in August of this year, were exhibited through the kindness of Mr Dickinson, Borough Surveyor. By favour of Mr D. K. Gregson, Berwick, Mr William Maddan sent for exhibition a "Warrant of Protection," by the Pretender, in favour of John Gregson in Wark, in the County of Northumberland, a tenant of the Earl of Tankerville, dated Kelso 5th November 1745, and signed by the notorious John Murray of Broughton, who played an unhappy part as the Prince's Secretary, and afterwards as Government witness. There was also exhibited by Mr A. M. Dunlop, Crawford, a specimen of *Onygena equina*, grown on the cast horn of a sheep found lying in the moor near the source of the Clyde, Lanarkshire. This variety is unusual, and commonly to be found on the hoofs of horses.

The members thereafter dined in the King's Arms Hotel under the presidency of Mr William B. Boyd, Faldonside, when the customary toasts were
Club duly honoured.
Dinner.

The Mosses of Northumberland.

By H. N. DIXON, M.A., F.L.S. (Hon. Member,
Caradoc and Severn Valley Field Club; Hon.
Sec., Northamptonshire Natural History
Society, Northampton.

DURING a short visit to Northumberland in the summer of 1905, I noted down the Mosses I came across in both divisions of the county, following the Watsonian vice-county distribution, viz., South Northumberland and Cheviotland. A few days only were devoted to a more particular search for Mosses than the circumstances of my visit would in general permit.

As no attempt has been made hitherto to record the distribution of Mosses in these two vice-counties, it seems worth while to draw up lists. The late Dr Hardy's admirable Moss Flora of the Eastern Borders (History of the Berwickshire Naturalists' Club, 1868) is only partially serviceable for the purpose of vice-comital distribution, since its area covers several of the Border counties, and these are not specified in the case of the most common species. It embodies the records in Thompson's "Catalogue of Plants growing in the Vicinity of Berwick-upon-Tweed" (1807), a fair number of which are localised and fall within our V.C. 68, and one or two other lists are quoted. Dr Johnston's "Natural History of the Eastern Borders" (1853) is unfortunately almost unavailable for our purpose, as, though 154 Mosses are named, they are all unlocalised with the exception of some half-dozen species.

Dr Hardy's Moss Flora gives about 180 species for V.C. 68, an excellent list, considering the date at which it was compiled, and taking into account the fact that this excludes a number of the commonest species which are unlocalised. Since that date scarcely anything appears to have been published. I have searched the volumes of the History of the

Club within my reach for anything bearing on the subject, in which search the President for the year, Mr Wm. B. Boyd, and the Editing Secretary, Rev. J. J. M. L. Aiken, B.D., have very kindly assisted, but the results are meagre. The list in Vol. xvi. of Dr Hardy's communications to the Proceedings of the Club (including his contributions to the Transactions of the Tyneside Naturalists' Field Club) makes no mention of Mosses; but on p. 448 of Vol. xii., he supplies a short list of the best of the Mosses (a dozen species are named, only one of them, however, a vice-county record) in the vicinity of the Linns, upon the occasion of a meeting held at Glanton in 1889.

A small collection of Mosses made by Mr Boyd, mostly gathered in the "sixties," has also been kindly lent me by him, and contains a few very interesting species, though only two of them are additions to the already published species for Northumberland, viz., *Dicranum spurium* and *Barbula Hornschuchiana*. Some few of these, from counties on the other side of the Border, are especially interesting, and it may perhaps be worth while putting them on record here, one of them especially, viz., *Dicranum Bergeri*, being extremely rare. It is recorded by Wilson from two localities in Cheshire, and I know of no other localised record for Britain, although the London Cat., 2nd ed., gives the two provinces 9, 10, and Berkeley's Handbook of British Mosses gives "Cheshire and Lancashire."

These species are as follows:—

Roxburghshire.

- WEISIA MICROSTOMA, C.M. Old Ormiston, 1868.—A. Jerdon.
 MNIUM UNDULATUM, L. cfr. Cherrytrees, 1868.—J. B. Boyd.
 DICRANUM BERGERI, Bland. (D. SCHRADERI, Schwaeg.) Near
 the Northumberland Border.—J. B. Boyd.
 CLIMACIUM DENDROIDES, W. and M. cfr. Yetholm Loch, 1873.
 —Wm. B. Boyd.
 HYPNUM CHRYSOPHYLLUM, Brid. Grass field near Newtown
 St. Boswells, 1868.

Selkirkshire.

BREUTELIA ARCUATA, Schp. cfr. St. Mary's Loch, 1868.—
Wm. B. Boyd.

ABBREVIATIONS.

I have used the following abbreviations in this list:—

JOHNSTON.—Natural History of the Eastern Borders, 1853.

THOMPSON.—Catalogue of Plants growing in the vicinity of Berwick-on-Tweed, 1807.

M.Fl.—Moss Flora of the Eastern Borders.—Hardy, 1868.

HARDY, loc. cit.—List of Mosses collected in the Linns.—Hardy, Hist. of Berwickshire Nat. Field Club, Vol. XII., p. 448.

B.G.—Botanists' Guide to Northumberland and Durham (quoted by Thompson.)

W.B.B. coll.—Collection of Mosses by Wm. B. Boyd.

The localities which are not followed by one or other of the above references are of my own noting. I have, as a rule, only cited one of the recorded localities for each species, but where the only published record is an early one, I have sometimes added a locality of my own observation. The nomenclature and order are those of the "Student's Handbook of British Mosses," ed. II.

The additional species noted by me bring the number of recorded species up from 185 to 236, an addition of 50 species. About half of these are merely confirmations of common plants referred to in the earlier works, but not localised for V.C. 68, and the other half new discoveries. A few of the latter are interesting additions to the county flora, such as *Sphagnum medium*, *Grimmia Hartmani*, *Philonotis capillaris*, *Bryum uliginosum*, *Eurhynchium Teesdalei*, and *Hyp. eugyrium* var. *Mackayi*.

SOUTH NORTHUMBERLAND.

I have not been able to discover any published records from V.C. 67. The list given below consists entirely of the few Mosses noted by me in three days spent at Chollerford on the Roman Wall. They amount to 103 species, a number which would easily be doubled with a little research, although it is improbable that the Moss Flora will be found so rich as that of the Northern part of the county, with the higher altitudes of the Cheviot range.

North Northumberland or Cheviotland (V.C. 68).

SPHAGNACEÆ.

- SPHAGNUM CYMBIFOLIUM, Ehrh. Cheviot.
 S. PAPPILLOSUM, Lindb. Alnwick Moor; Cheviot.
 S. MEDIUM, Limpr. Black Lough, Alnwick Moor.
 S. SUBSECUNDUM, Nees; var. CONTORTUM, Schp. Cheviot.
 S. SQUARROSUM, Pers. Cheviot (M.Fl.)
 S. ACUTIFOLIUM, Ehrh. Black Lough, Alnwick Moor.
 S. ACUTIFOLIUM var. FUSCUM, Schp. Cheviot.
 S. INTERMEDIUM, Hoffm. Black Lough, Alnwick Moor.
 S. CUSPIDATUM, Ehrh. Black Lough, Alnwick Moor.

ANDREÆACEÆ.

- ANDREÆA PETROPHILA, Ehrh. Cheviot (M.Fl.)
 A. ALPINA, Smith. Cheviot (M.Fl.)

TETRAPHIDACEÆ.

- TETRAPHIS PELLUCIDA, Hedw. Murton Crags, etc. (M.Fl.)
 T. BROWNIANA, Grev. "N. On the under side of a shelving rock in the dean at Twizell House, where it was discovered by Dr Greville" (Johnston.)

POLYTRICHACEÆ.

- CATHARINEA UNDULATA, W. and M. Warkworth.
 OLIGOTRICHUM HERCYNICUM, Lam. Cheviot (M.Fl.) Fruiting freely in the Hen Hole.
 POLYTRICHUM ALOIDES, Hedw. Cheviot (M.Fl.)
 P. NANUM, Neck. Hedgehope (M.Fl.)
 P. URNIGERUM, L. "N. On Cheviot [B.G.]" (Thompson.)
 P. ALPINUM, L. "N. On Cheviot" (Thompson.) I found it there, fruiting freely.
 P. PILIFERUM, Schreb. Wooler.
 P. JUNIPERINUM, Willd. Cheviot (M.Fl.)
 P. STRICTUM, Banks. Black Lough, Alnwick Moor.

- P. FORMOSUM*, Hedw. "N. On Cheviot" (Thompson.)
P. COMMUNE, L. "D. Murton Crags" (Thompson); Alnwick Moor.

BUXBAUMIACEÆ.

- BUXBAUMIA APHYLLA*, L. Cheviot (M.Fl.)
DIPHYSCIUM FOLIOSUM, Mohr. Cheviot (M.Fl.)

DICRANACEÆ.

- PLEURIDIUM SUBULATUM*, Rabenh. Langleyford (M.Fl.)
DITRICHUM HOMOMALLUM, Hampe. "N. Cheviot [B.G.]" (Thompson.)
D. FLEXICAULE, Hampe. Cheviot, etc. (M.Fl.)
SWARTZIA MONTANA, Lindb. "N. Cheviot [B.G.]" (Thompson.)
BRACHYODUS TRICHODES, Fürnr. Lyham Dean (M.Fl.)
CERATODON PURPUREUS, Brid. Cheviot (M.Fl.)
RHADOWEISIA FUGAX, B. and S. Cheviot (M.Fl.)
CYNODONTIUM BRUNTONI, B. and S. Rock crevices, Wooler, etc. (M.Fl.)

[*CYNODONTIUM POLYCARPUM*, Schp. Hardy (M.Fl.) records this as "Frequent among shady rocks in the heart of the Bizzle, and in Henhole; on walls about Langleyford; also on Careburn rocks; on Cunion Crags; and on the House of Crag." I cannot help feeling some doubt as to the above; *C. polycarpum* is certainly a rare plant with us, even in the Scotch Highlands, where it is most at home; it is, as Braithwaite remarks, easily confused with *C. Bruntoni*, and has frequently been so confused by the early writers, owing partly to faulty descriptions and figures in the older text-books. Two of Hardy's localities are cited by Braithwaite, but in neither case was a specimen seen by him. I am strongly inclined to the opinion that *C. polycarpum* should, in default of a Northumberland specimen, be considered a doubtful inhabitant.]

- DICHODONTIUM PELLUCIDUM*, B. and S. Cheviot (M.Fl.)
D. FLAVESCENS, Lindb. Cheviot (M.Fl.) Roddam Glen.
DICRANELLA HETEROMALLA, Schp. Cheviot (M.Fl.)
D. CERVICULATA, Schp. Coldmartin Moss (M.Fl.); Hetton Hall, 1868 (W.B.B. coll.); Alnwick Moor, in peat holes by Black Lough.

- D. VARIA, Schp. Cheviot, etc. (M.Fl.)
- D. RUFESCENS, Schp. South Middleton Dean (M.Fl.)
- D. SQUARROSA, Schp. Cheviot, etc. (M.Fl.)
- BLINDIA ACUTA, B. and S. Cheviot, etc. (M.Fl.)
- DICRANOWEISIA CIRRATA, Lindb. Wooler, etc. (M.Fl.); Basaltic crags, Kylee Hills; a short-leaved compact form.
- CAMPYLOPUS FLEXUOSUS, Brid. Cheviot, etc. (M.Fl.)
- C. FLEXUOSUS var. PARADOXUS, Husn. (C. PARADOXUS, Wils.)
First described as a species by Wilson from specimens gathered by Dr Hardy on the top of Whiteside Hill, near Wooler.
- C. PYRIFORMIS, Brid. Cheviot, etc. (M.Fl.)
- C. FRAGILIS, B. and S. In moist places in Bizzle (M.Fl.); Kylee Hills, on the basaltic escarpment, in short, dark, burnt-up tufts, scarcely half-an-inch in height.
- DICRANUM SPURIUM, Hedw. Lyham Moor, 1869 (W.B.B. coll.)
- D. BONJEANI, De Not. Langleyford, etc. (M.Fl.)
- D. BONJEANI var. JUNIPERIFOLIUM, Braithw. Near summit of Cheviot.
- D. SCOPARIUM, Hedw. "D. Murton Craigs" (Thompson); Dunstanburgh.
- D. MAJUS, Turn. Harthope Linn, etc. (M.Fl.)
- D. FUSCESCENS, Turn. Yeavinger Bell, etc. (M.Fl.)
- D. FUSCESCENS var. FALCIFOLIUM, Braithw. Cheviot.
- D. ELONGATUM, Schleich. Hedgehope (M.Fl.); "Hedgehope, Jas. Hardy, July 1868! examined by W. Wilson" (W.B.B. coll.) This is a northern and extremely rare British species, known elsewhere only from a few spots in the Scotch Highlands.
- LEUCOBRYUM GLAUCUM, Schp. Cheviot (M.Fl.)

FISSIDENTACEÆ.

- FISSIDENS VIRIDULUS var. LYLEI, Wils. Warkworth.
- F. BRYOIDES, Hedw. Warkworth.
- F. CURNOWII, Mitt. Warkworth, near the Hermitage.
- F. CRASSIPES, Wils. Warkworth, stones in stream.
- F. OSMUNDOIDES, Hedw. Cheviot (M.Fl.)
- F. ADIANTOIDES, Hedw. Cheviot, etc. (M.Fl.)
- F. TAXIFOLIUS, Hedw. Dunstanburgh.

GRIMMIACEÆ.

- GRIMMIA APOCARPA, Hedw. Cheviot.
 G. APOCARPA var. RIVULARIS, W. and M. Hen Hole, Cheviot.
 G. APOCARPA var. GRACILIS, W. and M. Hen Hole and Bizzle (M.Fl.)
 G. MARITIMA, Turn. Coast of North Durham (M.Fl.); Dunstanburgh.
 G. TORQUATA, Hornsch. Hen Hole and Bizzle, Cheviot (M.Fl.)
 I gathered it in the former locality.
 G. PULVINATA, Smith. Dunstanburgh.
 G. INCURVA, Schwaeg. Bellyside Hill and Cheviot (M.Fl.)
 G. OVATA, Schwaeg. Kylloe Hills (W.B.B. coll.)
 G. TRICHOPHYLLA, Grev. Alnwick Moor, etc. (M.Fl.) In fruit, sparingly, on walls near Wooler. Kylloe Crags, a blackish, densely tufted form, with abundant gemmæ among the upper leaves at times, and with the basal areolation frequently very shortly and widely rectangular, almost as in *G. subsquarrosa*, Wils.
 G. HARTMANI, Schp. Hen Hole, Cheviot. On boulders in stream.
 G. PATENS, B. and S. Cheviot, etc. (M.Fl.) Fruiting rather well in the Hen Hole in 1905.
 G. DONIANA, Smith. Cheviot, and Whiteside Hill, Wooler (M.Fl.)
 RHACOMITRIUM ACICULARE, Brid. "N. Cheviot" (Thompson.)
 R. PROTENSUM, Braun. Hen Hole, Cheviot.
 R. FASCICULARE, Brid. "N. Cheviot [B.G.]" (Thompson.)
 R. HETEROSTICHUM, Brid. "N. Cheviot [B.G.]" (Thompson.)
 R. HETEROSTICHUM var. GRACILESCENS, B. and S. Hen Hole, Cheviot; with short, pale capsules, difficult to distinguish from *R. sudeticum*, B. and S., but with the short ramulose branching of *R. heterostichum*.
 R. HETEROSTICHUM var. ALOPECURUM, Hübn. Cheviot.
 [R. SUDETICUM, B. and S. 'N. On dry exposed mountain rocks. "On Cheviot" (Thompson.) "On Cheviot, Hedgehope, and Alnwick Moor" (Winch.) Over nearly all the high Cheviot rocks, but fruiting best in the Bizzle and Hen Hole; House of Crag' (M.Fl.) I have seen no specimen so named, and I have very grave doubts as to whether the plant here referred to is not *R. heterostichum* var. *gracilescens*. The two plants closely resemble one another, indeed it is very difficult

to point out any clear and constant character; but *R. sudeticum* is a distinctly Alpine plant, reaching much higher than the vars. of *R. heterostichum*, and it would appear to be a somewhat rare plant with us, while *R. heterostichum* var. *gracilescens* is one of the most abundant forms of the genus on rocks throughout most of the mountainous districts of England and Wales. The plant that I gathered in Hen Hole might easily pass for *R. sudeticum*, which, however, according to Braithwaite "has in no form the peculiar ramification" (of *Rhacomitrium*), and is therefore excluded on the score of the branching alone. I think it is better, pending further evidence, to exclude *R. sudeticum* from the Northumberland Flora.]

R. LANUGINOSUM, Brid. "N. Cheviot [B.G.]" (Thompson.)

R. CANESCENS, Brid. Langleyford, etc. (M.Fl.)

R. CANESCENS var. *ERICOIDES*, B. and S. "N. Cheviot [B.G.]" (Thompson.) I did not happen to see this variety.

PTYCHOMITRIUM POLYPHYLLUM, Fürnr. Near the Maiden Well, Wooler (M.Fl.)

HEDWIGIA CILIATA, Ehrh. Cheviot (M.Fl.)

TORTULACEÆ.

POTTIA LANCEOLATA, C.M. Near Alnwick and Lyham (M.Fl.)

TORTULA RIGIDA, Schrad. Belford (M.Fl.)

T. ALOIDES, De Not. Spittal, etc. (M.Fl.)

T. MURALIS, Hedw. Dunstanburgh.

T. SUBULATA, Hedw. Langlee Crag Ravine (M.Fl.)

T. LÆVIPILA, Schwaeg. Wooler Water (M.Fl.)

T. INTERMEDIA, Berk. Dunstanburgh.

T. RURALIFORMIS, Dixon. In sand on links, Bamburgh. "*T. RURALIS*" is recorded by Thompson from Scremerston and Goswick Links, but there is every probability that the present sub-species is intended. The typical *T. ruralis* is no doubt frequent, but no locality for the vice-county is given in the M.Fl.

BARBULA RUBELLA, Mitt. "N. On Cheviot [B.G.]" (Thompson.)

B. TOPHACEA, Mitt. Roddam Dean, etc. (M.Fl.)

[*TRICHOSTOMUM RIGIDULUM*, Smith. "On moist rocks, and by the gravelly edges of nearly all our streams; ascending among the hills to Langlee Crag, Common burn, Heathpool, and the Bizzle Burn" (M.Fl.) This almost certainly refers to the segregate *B. spadicea* rather than to *B. rigidula*, Mitt.]

- B. SPADICEA, Mitt. Alnwick Park; Lucker; Roddam Glen cfr.
- B. CYLINDRICA, Schp. Alnwick; Roddam Glen cfr.
- B. SINUOSA, Braithw. Warkworth; Little Mill.
- B. HORNSCHUCHIANA, Schultz. Hetton Law, 1869 (W.B.B. coll.)
- B. REVOLUTA, Brid. On a wall near Bamburgh (M.Fl.) Holy Island cfr.
- B. CONVOLUTA, Hedw. Wooler turnpike, about the thirteenth milestone (M.Fl.) I gathered it on a wall near Wooler.
- B. UNGUICULATA, Hedw. Langlee Crag ravine (M.Fl.)
- LEPTODONTIUM FLEXIFOLIUM, Hampe. Whiteside Hill, Wooler, etc. (M.Fl.)
- WEISIA TENUIS, C.M. "GYMNOSTOMUM TENUE. D. On a shelving sandstone rock in the plantation on the river-side above Ord-mill" (Johnston); Thorncliffe Dean.
- W. VIRIDULA, Hedw. Cheviot, etc. (M.Fl.)
- W. MUCRONATA, B. and S. Below Spittal and Scremerston, etc. (M.Fl.)
- W. RUPESTRIS, C.M. Roddam Glen.
- W. VERTICILLATA, Brid. "D. In the dean at Tillmouth. N. In the dean at Twizell House" (Johnston.) Thorncliffe Dean cfr.
- TRICHOSTOMUM CRISPULUM, Bruch. Dunstanburgh Castle (M.Fl.)
- T. MUTABILE, Bruch. Dunstanburgh Castle (M.Fl.)
- T. MUTABILE var. LITTORALE, Dixon. Alwinton (M.Fl.); Basaltic crags, Kylee Hills; a well marked, broad-leaved form.
- T. FLAVOVIRENS, Bruch. Dunstanburgh Castle (M.Fl.) I gathered it there.
- T. TENUIROSTRE, Lindb. Hen Hole, Cheviot.
- T. TORTUOSUM, Dixon. Cheviot, etc. (M.Fl.)
- CINCLIDOTUS FONTINALOIDES, P. Beauv. Alwinton and Alnwick (M.Fl.)

ENCALYPTACEÆ.

- ENCALYPTA VULGARIS, Hedw. Alnwick, etc. (M.Fl.)
- E. CILIATA, Hoffm. In the Bizzle (M.Fl.)
- E. STREPTOCARPA, Hedw. Roddam Dean (M.Fl.)

ORTHOTRICHACEÆ.

- ZYGODON LAPPONICUS, B. and S. Cheviot (M.Fl.)
 Z. MOUGEOTII, B. and S. Cheviot, etc. (M.Fl.)
 Z. VIRIDISSIMUS, R.Br. Heathpool Linn, etc. (M.Fl.)
 ULOTA DRUMMONDII, Brid. Langleyford and Lyham Dean
 (M.Fl.) On a hazel, Roddam Dean.
 U. BRUCHII, Hornsch. Langlee Crag ravine (M.Fl.)
 U. CRISPA, Brid. The Bizzle, etc. (M.Fl.)
 U. CRISPA var. INTERMEDIA, Dixon. Alnwick Park.
 U. PHYLLANTHA, Brid. Dunstanburgh.

[The notice of U. HUTCHINSE "on trees at the foot of Cheviot," is doubtless, as concluded by Dr Hardy, a slip or an error.]

- ORTHOTRICHUM RUPESTRE, Schleich. Below Belford, etc. (M.Fl.)
 O. ANOMALUM, Hedw. Heathpool Linn, etc. (M.Fl.)
 O. CUPULATUM, Hoffm. Heathpool, etc. (M.Fl.)
 O. LEIOCARPUM, B. and S. Langleyford, Cheviot.
 O. LYELLII, H. and T. Near Earl, etc. (M.Fl.)
 O. AFFINE, Schrad. Langleyford, etc. (M.Fl.)
 O. RIVULARE, Turn. Old Middleton Burn, etc. (M.Fl.)
 O. STRAMINEUM, Hornsch. Near Middleton Hall (M.Fl.); hazels,
 Alnwick Park; Roddam Glen.
 O. PULCHELLUM, Smith. "This was first described as 'nova species' in the Bot. Guide through Northumberland, II., p. 23, an. 1807, by 'the late Mr W. Brunton, junr.'" (Johnston.) Langleyford vale (M.Fl.)
 O. DIAPHANUM, Schrad. Whiteside and Earl (M.Fl.)

SPLACHNACEÆ.

- ŒDIPODIUM GRIFFITHIANUM, Schwaeg. Cheviot (M.Fl.)
 SPLACHNUM SPHERICUM, L. fil. "Cheviot, *Winch.* I have only observed it there in the bog at the South-Eastern end, but not recently" (M.Fl.) I gathered it near the summit.
 TETRAPLONDON MNIOIDES, B. and S. Cheviot (M.Fl.)

FUNARIACEÆ.

- PHYSCOMITRIUM PYRIFORME, Brid. Hetton Hall (M.Fl.)
 FUNARIA ERICETORUM, Dixon. Linhope Linns (Hardy, loc. cit.)
 F. HYGROMETRICA, Sibth. Cheviot, etc. (M.Fl.)

MEESIACEÆ.

- MEESIA TRICHOIDES, Spruce. Common Burn, etc. (M.Fl.);
 Heathpool, J. Hardy, 1868 (W.B.B. coll.)
 AULACOMNIUM PALUSTRE, Schwaeg. Alnwick Moor.
 A. ANDROGYNUM, Schwaeg. Twizell Dean, etc. (M.Fl.)

BARTRAMIACEÆ.

- BARTRAMIA POMIFORMIS, Hedw. Langleyford, Cheviot.
 B. POMIFORMIS var. CRISPA, B. and S. "Cheviot [B.G.]"
 (Thompson.)
 B. ITHYPHYLLA, Brid. "Cheviot [B.G.]" (Thompson.)
 PHILONOTIS FONTANA, Brid. Warkworth.
 P. CALCAREA, Schp. Hebburn Wood (M.Fl.); Roddam Glen,
 male plant.
 P. CAPILLARIS, Lindb. Hen Hole, Cheviot. A very slender,
 bright green plant growing on wet rocks at foot of
 crags. I refer to this species, although in the absence
 of inflorescence a certain amount of doubt must attach
 to the record.
 BREUTELIA ARCUATA, Schp. Cheviot and Hedgehope (M.Fl.)

BRYACEÆ.

- LEPTOBRYUM PYRIFORME, Wils. Hetton Hall (M.Fl.)
 WEBERA POLYMORPHA, Schp. Cheviot, etc. (M.Fl.)
 W. ELONGATA, Schwaeg. The Bizzle (M.Fl.)
 W. CRUDA, Schwaeg. Humbleton Dean, etc. (M.Fl.)
 W. NUTANS, Hedw. Cheviot (M.Fl.); Alnwick Moor.
 W. ANNOTINA, Schwaeg. Bamburgh.
 W. ANNOTINA var. ERECTA, Roth. Cheviot.
 W. CARNEA, Schp. Dunstanburgh.
 W. ALBICANS, Schp. Cheviot, etc. (M.Fl.); Roddam Dean, cfr.
 PLAGIOBRYUM ZIERII, Lindb. Cheviot (M.Fl.)
 BRYUM FILIFORME, Dicks. Cheviot, etc. (M.Fl.)
 B. PENDULUM, Schp. Bridge, Langleyford, Cheviot.
 B. CALOPHYLLUM, R.Br. Holy Island (M.Fl.)
 B. ULIGINOSUM, B. and S. Roddam Dean.
 B. PALLENS, Swartz. "Linhope Linns" (Hardy, loc. cit.)

- B. PSEUDOTRIQUETRUM, Schwaeg. Cheviot (M.Fl.); etc.
 B. PALLESCENS, Schleich. I have a specimen in my herbarium labelled "nr. Wooler, J. Hardy."
 B. CÆSPITICIMUM, L. Yeavinger, etc. (M.Fl.)
 B. CAPILLARE, L. Dunstanburgh.
 B. ATROPURPUREUM, W. and M. Hetton Hall, Earl (M.Fl.)
 B. ALPINUM, Huds. Careburn, etc. (M.Fl.)
 B. ARGENTEUM, L. Dunstanburgh.
 B. ROSEUM, Schreb. Cheviot, etc. (M.Fl.)
 MNIUM AFFINE, Bland. Warkworth.
 M. CUSPIDATUM, Hedw. Haiden Dean, etc. (M.Fl.)
 M. ROSTRATUM, Schrad. Roddam Dean (M.Fl.)
 M. UNDULATUM, L. Cheviot, etc. (M.Fl.)
 M. HORNUM, L. Cheviot (M.Fl.); etc.
 M. SERRATUM, Schrad. Heathpool Linn, etc. (M.Fl.)
 M. STELLARE, Reid. Hetton Burn, etc. (M.Fl.); Warkworth.
 M. PUNCTATUM, L. Cheviot, etc. (M.Fl.)
 M. SUBGLOBOSUM, B. and S. Cheviot (M.Fl.)

FONTINALACEÆ.

- FONTINALIS ANTIPYRETICA, L. "N. Langleyford, Cheviot" (Thompson); etc.
 F. ANTIPYRETICA var. GRACILIS, Schp. Alnwick Moor.
 F. SQUAMOSA, L. Hardy questions whether the records for this species may not belong to a form of *F. antipyretica*, which is very probable; I have, however, gathered *F. squamosa* at Langleyford.

NECKERACEÆ.

- NECKERA COMPLANATA, Hübn. Cheviot, etc. (M.Fl.)
 N. CRISPA, Hedw. Cheviot (M.Fl.)
 HOMALIA TRICHOMANOIDES, Brid. Hetton Burn (M.Fl.); Warkworth.

HOOKERIACEÆ.

- PTERYGOPHYLLUM LUCENS, Brid. "Linhope Linns" (Hardy, loc. cit.)

LEUCODONTACEÆ.

- LEUCODON SCIUROIDES, Schwaeg. Cheviot (M.Fl.)
 PTEROGONIUM GRACILE, Swartz. Heathpool Linn (M.Fl.)
 ANTITRICHIA CURTIPENDULA, Brid. Harthope Linn, etc.
 (M.Fl.)
 POROTRICHUM ALOPECURUM, Mitt. "Linhope Linns" (Hardy,
 loc. cit.)

LESKEACEÆ.

- ANOMODON VITICULOSUS, H. and T. Humbleton Dean, etc.
 (M.Fl.)
 PTERIGYNANDRUM FILIFORME, Hedw. Heathpool Linn (M.Fl.)
 HETEROCLADIUM HETEROPTERUM, B. and S. "Linhope Linns"
 (Hardy, loc. cit.)
 ——— var. FALLAX, Milde. Warkworth, on shady rocks
 in dean.
 THUIDIUM TAMARISCINUM, B. and S. In the Bizzle, etc.
 (M.Fl.)

HYPNACEÆ.

- CLIMACIUM DENDROIDES, W. and M. Cheviot; Common burn
 (M.Fl.)
 PYLAISIA POLYANTHA, B. and S. "D. Brought from a plan-
 tation near Twizell Castle by the late Rev. A. Baird"
 (Johnston.) Hazeridge Dean, 1869; on ash tree (W.B.B.
 coll.)
 CAMPTOTHECIUM SERICEUM, Kindb. Cheviot (M.Fl.)
 C. LUTESCENS, B. and S. "D. Yarrow Haugh" (Thomp-
 son.)
 C. NITENS, Schp. Ormiston, 1877 (W.B.B. coll.) "Also
 at Hetton Hall," W.B.B. in sched. Haiden Dean
 (M.Fl.)
 BRACHYTHECIUM ALBICANS, B. and S. Bamburgh.
 B. SALEBROSUM, B. and S. Sand dunes, Bamburgh.
 B. RUTABULUM, B. and S. Dunstanburgh.
 B. RIVULARE, B. and S. Cheviot, etc. (M.Fl.)

- B. VELUTINUM, B. and S. Wooler.
 B. POPULEUM, B. and S. Cheviot (M.Fl.)
 B. PLUMOSUM, B. and S. "D. Murton Craigs" (Thompson.)
 B. PURUM, Dixon. Dunstanburgh.
 HYCOMIUM FLAGELLARE, B. and S. Linhope Linns (M.Fl.)
 EURHYNCHIUM PILIFERUM, B. and S. Warkworth.
 E. SPECIOSUM, Schp. Lyham Dean (M.Fl.)
 E. PRÆLONGUM, Hobk. Warkworth.
 E. PRÆLONGUM var. STOKESII, Brid. Langleyford, Cheviot.
 E. SWARTZII, Hobk. Cheviot, etc. (M.Fl.)
 E. SWARTZII var. RIGIDUM, Boul. Warkworth. On earth or much disintegrated rock in dean; a very well marked form of the variety, and closely resembling *E. abbreviatum*, Schp., but with slightly wider cells and without the distinctly half-twisted acumen to the leaves.
 E. PUMILUM, Schp. In the Bizzle (M.Fl.); Warkworth.
 E. TEESDALEI, Schp. Warkworth; Thorncliffe Dean, a form with closely set, imbricated leaves.
 E. MYOSUROIDES, Schp. Cheviot (M.Fl.)
 E. MYURUM, Dixon. Cheviot (M.Fl.)
 E. STRIATUM, B. and S. Cheviot (M.Fl.)
 E. RUSCIFORME, Milde. Dunstanburgh.
 PLAGIOTHECIUM ELEGANS, Sull. Cheviot (M.Fl.)

[*H. MULCENS*, Wils. MSS., described by Dr Hardy in the 'Moss Flora,' p. 472, appears to be referable to *Plag. elegans*. I have examined the original specimen—"Hen Hole, Cheviot, July 1867; Jas. Hardy"—in Wilson's herbarium, and although it has certain characters distinguishing it from most forms of *P. elegans*, they do not, I think, constitute a sufficient difference in my opinion to warrant separation, and that appears to have been Wilson's final opinion, as his only annotations are as follows: "Central basal cells seem different from normal *H. elegans*?"; "? *H. elegans* var. *fol. latioribus*? No alar cellules." The stems are elongate, the leaves wider at base and more ovate than usual, and the areolation towards the base of the leaves especially slightly laxer; but in other characters it agrees with *P. elegans*.

- P. PULCHELLUM, B. and S. Cheviot, etc. (M.Fl.)
 P. DENTICULATUM, B. and S. Cheviot, etc. (M.Fl.)
 P. SILVATICUM, B. and S. Warkworth.
 P. UNDULATUM, B. and S. Cheviot, etc. (M.Fl.)

AMBLYSTEGIUM SERPENS, B. and S. Dunstanburgh.

[“*H. RADICALE*, P. Beauv. In the Bizzle, one example only—W.B.B.” M.Fl., must be considered a doubtful record.]

A. IRRIGUUM, B. and S. Warkworth; Alnwick.

A. FILICINUM, De Not. Cheviot (M.Fl.)

HYPNUM STELLATUM, Schreb. Cheviot, etc. (M.Fl.)

H. ADUNCUM, Hedw. Cheviot (M.Fl.)

H. FLUITANS, L. Haiden Dean, etc. (M.Fl.)

H. FLUITANS var. *FALCATUM*, Schp. Bog at summit of Cheviot, fruiting abundantly. Forming large sheets, very conspicuous at some distance from the golden colour of the setæ.

H. REVOLVENS, Swartz. Cheviot (M.Fl.)

H. UNCINATUM, Hedw. Alnwick, etc. (M.Fl.)

H. COMMUTATUM, Hedw. “Linhope Linns” (Hardy, loc. cit.)

H. CUPRESSIFORME, L. “N. Cheviot” (Thompson.)

H. CUPRESSIFORME var. *RESUPINATUM*, Schp. Cheviot, etc. (M.Fl.)

H. CUPRESSIFORME var. *FILIFORME*, Brid. Roddam Glen.

H. CUPRESSIFORME var. *ERICETORUM*, B. and S. Cheviot.

H. MOLLUSCUM, Hedw. Cheviot (M.Fl.)

H. PALUSTRE, L. Roddam Glen.

H. EUGYRIUM var. *MACKAYI*, Schp. Hen Hole, Cheviot. A tall, robust plant.

H. OCHRACEUM, Turn. Cheviot, etc. (M.Fl.)

H. SCORPIOIDES, L. “N. On the Cheviots” (M.Fl.)

H. STRAMINEUM, Dicks. Cheviot (M.Fl.); Horton Moor, 1869, cfr. (W.B.B. coll.)

H. CUSPIDATUM, L. Roddam Glen cfr.

H. SCHREBERI, Willd. “N. Coal Wood, Belford” (Thompson.)

HYLOCOMIUM SPLENDENS, B. and S. “D. Murton Craigs” (Thompson.)

H. LOREUM, B. and S. “D. Yarrow Haugh” (Thompson.)

H. SQUARROSUM, B. and S. Cheviot (M.Fl.)

H. TRIQUETRUM, B. and S. “D. Murton Craigs; Seremerston Links” (Thompson.)

South Northumberland (V.C. 67).

- SPHAGNUM CYMBIFOLIUM, Ehrh. Gunnerton Crags.
 S. CYMBIFOLIUM var. SQUARROSULUM, N. and H. Gunnerton Crags.
 S. ACUTIFOLIUM, Ehrh. Crag Lough.
 S. INTERMEDIUM, Hoffm. Gunnerton Crags.
 TETRAPHIS PELLUCIDA, Hedw. Crag Lough.
 CATHARINEA UNDULATA, W. and M. Chollerford.
 POLYTRICHUM PILIFERUM, Schreb. Gunnerton.
 P. JUNIPERINUM, Willd. Gunnerton.
 P. FORMOSUM, Hedw. Crag Lough.
 P. COMMUNE, L. Gunnerton.
 DITRICHUM FLEXICAULE, Hampe. Barcombe.
 SWARTZIA MONTANA, Lindb. Chollerford.
 CERATODON PURPUREUS, Brid. Chollerford.
 SELIGERIA RECURVATA, B. and S. On pier of Roman Bridge, Chollerford.
 DICHODONTIUM PELLUCIDUM, Schp. On Roman Bridge cfr.
 D. FLAVESCENS, Lindb. Boulders by R. Tyne, Chollerford (so far as it is possible to determine without fruit).
 DICRANELLA HETEROMALLA, Schp. Crag Lough.
 D. SCHREBERI, Schp. Barcombe.
 DICRANUM SCOPARIUM, Hedw. Barcombe.
 D. MAJUS, Turn. Crag Lough.
 D. FUSCESCENS, Turn. Crag Lough.
 LEUCOBRYUM GLAUCUM, Schp. Gunnerton.
 FISSIDENS VIRIDULUS var. LYLEI, Wils. By stream below Camp Hill, Gunnerton.
 F. BRYOIDES, Hedw. Roman Bridge, Chollerford.
 F. ADIANTOIDES, Hedw. Sewingshields.
 F. TAXIFOLIUS, Hedw. Chollerford.
 GRIMMIA APOCARPA, Hedw. Chollerford.
 G. APOCARPA var. ALPICOLA, H. and T. Boulders in R. Tyne, Chollerford.
 G. PULVINATA, Sm. Chollerford.
 RHACOMITRIUM ACICULARE, Brid. Crag Lough.
 R. FASCICULARE, Brid. Roman Bridge, Chollerford.
 R. HETEROSTICHUM, Brid. Roman Bridge, Chollerford.
 R. CANESCENS, Brid. Crag Lough.

- TORTULA MURALIS, Hedw. Chollerford.
 T. SUBULATA, Hedw. Walls of Roman station, Borcovicus.
 T. LEVIPILA, Schwaeg. Chollerton.
 T. RURALIS, Ehrh. Chollerford.
 BARBULA RUBELLA, Mitt. Chollerford.
 B. FALLAX, Hedw. Housesteads.
 B. SPADICEA, Mitt. By R. Tyne, Chollerford.
 B. CYLINDRICA, Schp. The Chesters, Chollerford.
 B. REVOLUTA, Brid. Chollerton.
 B. CONVOLUTA, Hedw. Walls, The Chesters, Chollerford.
 B. UNGUICULATA, Hedw. The Chesters.
 WEISIA VIRIDULA, Hedw. Bardon Mill.
 W. VERTICILLATA, Brid. Chollerford.
 TRICHOSTOMUM TORTUOSUM, Dixon. Sewingshields.
 CINCLIDOTUS FONTINALOIDES, P. Beauv. The Chesters, in R. Tyne.
 ENCALYPTA STREPTOCARPA, Hedw. Chollerford.
 ORTHOTRICHUM ANOMALUM var. SAXATILE, Milde. Chollerton.
 O. CUPULATUM, Hoffm. Gunnerton.
 O. CUPULATUM var. NUDUM, Braithw. Boulders in R. Tyne, Chollerford.
 O. AFFINE var. RIVALE, Wils. On tree by R. Tyne, Chollerford. Calyptra naked.
 BARTRAMIA POMIFORMIS, Hedw. Sewingshields.
 PHILONOTIS FONTANA, Brid. Housesteads. A form of *Philonotis* growing in sand by the Tyne at Chollerford, may possibly be *P. caespitosa*, Wils., but the data are insufficient for exact determination.
 WEBERA NUTANS, Hedw. The Chesters, Chollerford.
 W. ALBICANS, Schp. In sand by R. Tyne, Chollerford.
 BRYUM PALLENS, Swartz. Chollerford.
 B. PSEUDOTRIQUETRUM, Schwaeg. Crag Lough.
 B. CAESPITICUM, L. Sewingshields.
 B. CAPILLARE, L. Chollerford.
 B. ARGENTEUM, L. Hexham.
 MNIMUM AFFINE, Bland. Chollerford.
 M. UNDULATUM, L. Chollerford.
 M. HORNUM, L. Chollerford.
 M. SERRATUM, Schrad. Roman Bridge, Chollerford.
 M. PUNCTATUM, L. Chollerford.

- FONTINALIS ANTIPYRETICA, L. Chollerford.
 NECKERA COMPLANATA, Hübn. Chollerford.
 HOMALIA TRICHOMANOIDES, Brid. Chollerford.
 POROTRICHUM ALOPECURUM, Mitt. Gunnerton.
 LESKEA POLYCARPA, Ehrh. Chollerford.
 THUIDIUM TAMARISCINUM, B. and S. Crag Lough.
 CAMPTOTHECIUM SERICEUM, Kindb. Chollerford.
 BRACHYTHECIUM RUTABULUM, B. and S. Chollerford.
 B. RIVULARE, B. and S. Housesteads.
 B. PLUMOSUM, B. and S. Chollerford.
 B. PURUM, Dixon. Barcombe.
 EURHYNCHIUM CRASSINERVIUM, B. and S. Chollerford.
 E. MYOSUROIDES, Schp. Barcombe.
 E. MYURUM, Dixon. Chollerford.
 E. STRIATUM, B. and S. Roman Bridge, Chollerford.
 E. MURALE, Milde. The Chesters, Chollerford.
 E. RUSCIFORME, Milde. Housesteads.
 PLAGIOTHECIUM ELEGANS, Sull. Crag Lough.
 P. DENTICULATUM, B. and S. Crag Lough. A small form
 with imbricated, scarcely complanate, very concave leaves,
 at Chollerford, at foot of tree.
 B. SILVATICUM, B. and S. Roman Bridge, Chollerford.
 P. UNDULATUM, B. and S. Crag Lough.
 AMBLYSTEGIUM SERPENS, B. and S. Chollerford.
 A. FILICINUM, De Not. Chollerford cfr.
 HYPNUM RIPARIUM, L. Housesteads.
 H. STELLATUM var. PROTENSUM, B. and S. On stone pier of
 Roman Bridge, Chollerford. An entirely creeping form,
 growing flat on the stones.
 H. UNCINATUM, Hedw. Roman Bridge, Chollerford.
 H. CUPRESSIFORME, L. Chollerford.
 H. CUPRESSIFORME var. ERICETORUM, B. and S. Crag Lough.
 H. PATIENTLE, Lindb. Chollerford.
 H. MOLLUSCUM, Hedw. Housesteads.
 H. PALUSTRE, L. In R. Tyne, Chollerford, with *Grimmia*
apocarpa var. *alpicola*.

[A striking form, which I have gathered on boulders partly submerged in several of our rivers in subalpine districts, having a robust habit, large falcate leaves, and especially characterised by the *very stout*, single nerve, reaching well above two-thirds of the leaf. These are

the characters of var. *subsphaericarpon*, B. and S. (except that the long single nerve in that variety is not described as unusually stout), and I have received sterile plants so named, evidently on the strength of the vegetative characters. I have, however, gathered this plant in the river Wharfe and elsewhere, bearing capsules of the typical form, and this is the case with the Chollerford plant in question, where they are by no means wider or more turgid than in ordinary *H. palustre*. It is quite clear therefore that these vegetative characters are not always correlated with the type of capsule of var. *subsphaericarpon*, and there is some argument for giving our plant a new varietal name. On the other hand I have gathered a plant in Teesdale, and Mr Binstead sends me a similar plant from the river Wye at Clifford, which with these leaf characters combines a shorter and wider capsule than that of the type, and which may very fairly be placed under the variety in question, although the capsule by no means equals the large, turgid fruit I have gathered in mountain streams in the Pyrenees; they show, in fact, an intermediate stage between the extreme Continental variety and the plant now under consideration with the foliar characters of the variety, but the capsule of typical *palustre*. I have plants with these vegetative characters from the following localities: Lomond Hill, Fife (leg. Ewing); Glenlyon, Perthshire; Duntulm, Skye; river Tyne, Chollerford; Teesdale; Wharfedale; Lodore Falls, Cumberland; Nant-y-Belan, Denbighshire (leg. Wilson); river Wye, Herefordshire (leg. Binstead); river Shannon, Limerick (leg. Miss Armitage); Downhill, Ireland (leg. Parker); so that it is a widely spread form. As bearing on the question of the relative importance of the varietal characters, I may mention that I have gathered a plant in Cumberland showing both forms of capsule, long and narrow, and short and turgid, upon the same stem; and although the capsules are small, and the whole plant in most characters typical of *H. palustre*, still the juxtaposition of the two forms would seem to indicate a lack of stability in this respect, and a consequent lessening of the value of the character as a varietal distinction. It would seem that on the whole the variety would have been better established upon the vegetative characters alone, which would have comprised a fairly definite group of forms, including the plant on which these remarks are based, and the other similar plants referred to above, as well as the Continental plant with large swollen capsules, on which Schleicher based his *Hypnum subsphaericarpon*.—Another fact in connection with this plant is not without interest. I have already mentioned its association with *Grimmia apocarpa* var. *alpicola*. It is a rather curious fact that in the four localities in England and Scotland in which I have gathered this rather marked and scarce variety, it has been always associated with the form or variety of *H. palustre* in question. I am not able to suggest what are the particular conditions favourable to this association, which it is scarcely probable can be entirely fortuitous.]

- HYPNUM SCORPIOIDES, L. Marsh at foot of Crag Lough; a markedly slender form (possibly var. *gracilescens*, Sanio), abundant, with remains of old capsules.
- H. CORDIFOLIUM, Hedw. Limestone Bank, in the fosse of the Roman Vallum.
- H. GIGANTEUM, Schp. Crag Lough.
- H. CUSPIDATUM, L. Chollerford.
- H. SCHREBERI, Willd. Crag Lough.
- HYLOCOMIUM SPLENDENS, B. and S. Barcombe.
- H. LOREUM, B. and S. Crag Lough.
- H. SQUARROSUM, B. and S. Chollerford.
- H. TRIQUETRUM, B. and S. Housesteads.

Addenda to list of South Northumberland Mosses.

Since the compilation of the above list, my attention has been drawn to Winch's "Flora of Northumberland and Durham" (Trans., Northumberland, Durham, etc., Nat. Hist. Soc., 1831), containing numerous records of Mosses from both counties. From this Flora, and the Addenda (1836), I have extracted the following records of species from South Northumberland, not included in the list already given. They make an addition of 57 species, which brings the total recorded for V.C. 67 in this paper to 162.

- ANDREÆA ALPINA, Sm. Between Nuckton and Beldon Bourns.
- POLYTRICHUM NANUM, Neck. Newcastle Town Moor, etc.
- P. URNIGERUM, L. Near Pont Bourn.
- P. ALPINUM, L. Simonside.
- PLEURIDIUM SUBULATUM, Rabenh. Roman Wall, etc.
- P. AXILLARE, Lindb. West Dipton.
- DITRICHUM HOMOMALLUM, Hampe. Simonside, etc.
- DICRANELLA CERVICULATA, Schp. Prestwick Carr, etc.
- BLINDIA ACUTA, B. and S. Near Hexham, etc.
- DICRANOWEISIA CIRRATA, Lindb. Near Newcastle.

- CAMPYLOPUS FLEXUOSUS*, Brid. Prestwick Carr, etc.
DICRANUM BONJEANI, De Not. Near Hexham, etc.
FISSIDENS OSMUNDOIDES, Hedw. Prestwick Carr, etc.
GRIMMIA FUNALIS, Schp. On basaltic rocks at Shewingshields.
RHACOMITRIUM LANUGINOSUM, Brid. Shewingshields, etc.
PTYCHOMITRIUM POLYPHYLLUM, Fűrnr. Blanchland.
HEDWIGIA CILIATA, Ehrh. Shafthoe Crags, etc.
PHASCUM CUSPIDATUM var. *PILIFERUM*, H. and T. Near Hexham,
 etc.
POTTIA TRUNCATULA, Lindb. Newcastle.
P. INTERMEDIA, Fűrnr. West Denton.
P. HEIMII, Fűrnr. Heddon-on-the-Wall.
TORTULA PUSILLA, Mitt. Newcastle, etc.
BARBULA TOPHACEA, Mitt. Prestwick Carr.
WEISIA CRISPA, Mitt. West Dipton.
W. MICROSTOMA, C.M. Prestwick Carr.
ENCALYPTA VULGARIS, Hedw. Near Hexham, etc.
ZYGODON VIRIDISSIMUS, R.Br. Wallington.
ULOTA DRUMMONDII, Brid. Near Rothley Lake, Wallington.
ORTHOTRICHUM DIAPHANUM, Schrad. Gosforth, etc.
O. PULCHELLUM, Sm. Newcastle Town Moor, etc.
SPLACHNUM SPHERICUM, L.f. Prestwick Carr.
S. AMPULLACEUM, L. Prestwick Carr.
PHYSCOMITRIUM PYRIFORME, Brid. Near Hexham.
FUNARIA FASCICULARIS, Schp. Near Hexham.
F. HYGROMETRICA, Sibth. Abundant.
AMBLYODON DEALBATUS, P. Beauv. Muckle Moss, etc.
MEESIA TRICHOIDES, Spruce. Muckle Moss, etc.
BARTRAMIA ITHYPHYLLA, Brid. Blanchland.
WEBERA CARNEA, Schp. Near Dilston and Hexham.
BRYUM ALPINUM, Huds. "On the basaltic rocks at Shewing-
 shields, N. New to this Flora."
B. ROSEUM, Schreb. Walbottle Dene, etc.
MNIUM CUSPIDATUM, Hedw. In woods, not very rare.
M. ROSTRATUM, Schrad. Near Wallington.
CRYPHÆA HETEROMALLA, Mohr. Wardrew.
NECKERA CRISPA, Hedw. Fallowlees Bourn.
LEUCODON SCIUROIDES, Schwaeg. Dilston Park.
ANOMODON VITICULOSUS, H. and T. Limestone rocks in the
 denes on the coast.

- PTERYGOPHYLLUM LUCENS, Brid. Near Newcastle, etc.
 CLIMACIUM DENDROIDES, W. and M. East Common Wood, etc.
 PLEUROPUS SERICEUS, Dixon. On walls, etc., not very common.
 BRACHYTHECIUM POPULEUM, B. and S. Jesmond Dene, etc.
 EURHYNCHIUM PILIFERUM, B. and S. East Common Wood, etc.
 E. CONFERTUM, Milde. Dilston Park, etc.
 HYPNUM STELLATUM, Schreb. Prestwick Carr.
 H. FLUITANS, L. Prestwick Carr, etc.
 H. COMMUTATUM, Hedw. Wardrew, etc.

A few records have had to be omitted on account of uncertainty as to the synonymy; while in a few cases of commoner species the same omission has had to be made through the records being unlocalised. In the case of a few unlocalised records, however, the context indicates that the entry includes stations in V.C. 67, and these have therefore been admitted.

I have also received the following additional records for South Northumberland from Mr Ll. J. Cocks:—

- ANDRÆA PETROPHILA, Ehrh. Roman Wall, Haltwhistle.
 A. PETROPHILA var. ACUMINATA, Schp. Roman Wall, Haltwhistle.
 GRIMMIA APOCARPA var. RIVULARIS, W. and M. Haltwhistle Burn.
 ENCALYPTA VULGARIS var. OBTUSA, N. and H. Nr. Haltwhistle.
 AULACOMNIUM ANDROGYNUM, Schwaeg. Roman Wall, Haltwhistle.

H.N.D.

A Ramble round Yetholm. By REV. J. J. M. L. AIKEN,
B.D., Ayton.

OWING to the difficulty of organizing an excursion of the Club to this district by reason of its remoteness from the railway and the ill-adjusted train-service, an invitation on the part of Mr Wm. B. Boyd, Faldonside, whose acquaintance with the locality rendered him a veritable Baedeker to the uninitiated, to take part in an expedition to Yetholm presented unusual attractions, as thereby one's knowledge of the Borderland might be widened, and the study of the local flora profitably directed. Taking train on 9th July 1906 to Kelso, which was reached from St. Boswells at 11-55 noon, a conveyance met us at the Station, and in spite of the hilly nature of the road, and the dust-storm raised by an opposition motor-bus, plying thence to Morebattle, deposited us in the course of an hour at the door of the Plough Inn, which had been selected as headquarters for two days. After partaking of lunch, a start was made on our tour of inspection; and taking the road to the South of the town, we struck at about a mile out a loaning to the right, over which the thorn-hedges were well nigh meeting, and following it for some distance reached Primside Bog, lying on our left and North of the Morebattle road. On a casual survey it looked little more than a dub in the midst of cattle pasture, so that to the unwary little difficulty presented

itself in pressing towards its centre; but on closer inspection, and as soon as the boundary line of "bull-snouts" and rush-tussocks was passed, it became clear that there was a formidable amount of marsh to negotiate, and that only by the exercise of caution and agility could a header be avoided. As commonly happens, the prizes lay stored in the middle, on account of which the problem was presented in the absence of planks or waders how we were to reach them. Reconnoitring, therefore, had to be resorted to; and after a careful examination of possible lines of attack, for botanists, like other men, "have their exits and their entrances" (as the bogs of Connemara can fully testify), the practised leader made choice of what for want of a better proved a serviceable means of entrance. This difficulty being surmounted, though not without the displacement of mud and a needless shipment of water, a search was begun for an uncommon Sedge (*Carex limosa*), which delights in such a region of quagmire. Being an inconspicuous plant of from six to twelve inches, and bearing a head of only a few drooping spikelets, it required careful and laborious scrutiny of the ground, and the occupation of considerable time, during which the Cranberry (*Vaccinium Oxycoccus*) was seen in abundant flower and fruit, its delicately beautiful and reflexed blossom reclining on the surface of water-holes overgrown with Sphagnum. Varieties of Spearwort (*Ranunculus flammula* and *R. lingua*) also gave brightness to the mass of rush and grasses interspersed with willows amid which they reared their graceful spikes, while a shy and wary warbler flitted from perch to perch, giving utterance to sweet melodious music. "All things come to him who waits"; and waiting, which in our case meant plodding, was in due time rewarded with the discovery of a patch very thinly sown and by no means likely to catch the eye, in which ripened plants were identified. All the more gratifying was the "find" because from this Bog the species had been already reported, though such a report must have been subsequent to the publication of Dr Johnston's "Natural History of the Eastern Borders" (1853), wherein he names, as stations, only Haiden Dean, Bog below Smailholm Tower, Lurgie Loch, and Learmouth Bogs; and pronounces the

plant to be rare. It is interesting to know that since then, *C. limosa* has been found in large quantity all along the edges of the Gattonside Moss, near Melrose.

The object of our quest having been secured, we regained the road, and ascending to its junction with another, which connects Primside with Lochside, proceeded in a Northerly direction towards Yetholm Loch, an extensive sheet of water of one and a half miles circumference, abounding in perch and pike. Two field-breadths separated the road from its Southern extremity, so that to avoid needless trespassing we walked towards the farm-cottages on the roadside, opposite which a sown turnip-field presented an easier means of approach. Passing down the drills we noticed the frequent occurrence of *Veronica Buxbaumii*. The Loch is bordered with a strong growth of flags, rushes, and bur-weeds, and only at points where the swans have trampled them down could easy access to the water be obtained. The marshy undergrowth all round, however, supplied a productive hunting-ground, and for a couple of hours a careful scrutiny of plants was prosecuted with gratifying results. Very handsome, though none the less deadly, appeared *Cicuta virosa*, rooted in the muddy margin. Plentiful too was Gipsy-wort (*Lycopus Europæus*), though not so vigorous and branched as when seen by the dykeside of a crofter's garden near Roundstone, Co. Galway. On the grassy banks *Galeopsis versicolor* expanded its variegated whorls, and nestling amidst a thicket of Reed-mace (*Typha latifolia*) and Club-rush (*Scirpus lacustris*), the delicate blue Skull-cap (*Scutellaria galericulata*) and the pale rose Water Plantain (*Alisma Plantago*) relieved the sombre hue of their towering neighbours. A particular search for sedges was rewarded with the identification of *Carex teretiusecula*; *C. disticha* (in remarkably ripened fruit); *C. hirta*; and *C. paludosa*, which at the Southern extremity of the Loch assumed such a poor and attenuate form as to lead to the entertainment of doubt regarding its classification. Characteristic specimens, however, which have been submitted to the Curator of the Herbarium, Royal Botanic Garden, Edinburgh, have been pronounced to be true to type. An overflowing vasculum of plants of more frequent occurrence could easily have been

made from the delightfully varied flora around the Loch; but the purpose of the excursion having been attained, and the day being very well advanced, a bee-line through the grounds of Lochside in the direction of Town Yetholm was taken, and the comfortable hostelry there was reached long before sundown.

Next day broke fair and bright, but found my companion unable to take part in the labour allotted to it. Unwilling to lose the opportunity of visiting Graden Moss and Hoselaw Loch, and at the bidding of my guide, I set out on foot by the main road to Kelso, and continuing Northward to the Moor-house plantation, where the Linton road crosses it at right angles, I made, as was suggested, a hurried examination of the wood to ascertain whether the diminishing of the shade occasioned by a recent uprooting of old timber had affected the growth of *Goodyera repens*, formerly reported from this place, and whether any traces could be found of the classical *Linnaea borealis*. The results of a hasty survey showed that the former creeper, though less plentiful and vigorous, continued to flourish, and that the latter apparently had not established itself. Following the road to the East, which passes Old Graden, and the chapel of Hoselaw (recently erected through the energy of his son, the present incumbent of the parish, to the memory of the late Very Rev. Thomas Leishman, D.D., minister at Linton, on a site adjacent to an ancient sanctuary of the same name), I cut down the head-rig of a turnip-field, baked hard and unyielding to the tread, to enter the Moss which lies between the farm of Graden and the loch of Hoselaw, and is so overgrown with heather as to conceal from view the many pitfalls that have been laid for the incautious traveller. Little used to the ways of bogs, I had not proceeded far when on stooping to gather some Cranberries of the type met with on the day preceding, I made one of those discoveries which serve as a discipline for a life-time, by plunging almost to the middle into a disused moss-hag, whence the inhabitants of former days had dislodged their fuel. Discomfiture was of necessity my portion, as I endeavoured to scrape off the peculiarly adhesive matter that lay hidden in the depths that had entrapped me, and realised the misery of being without a change. "Wariness, be my

friend!" was now ringing in my ears, and without desire to make further acquaintance with the Moss or its peculiar treasures, my steps were turned in the direction of a small stream whose banks seemed to offer a surer foothold. This water issued from Hoselaw Loch, which lay to the East, and was the chief object of interest in the day's proceedings. It covers an area of thirty-two acres, and is almost entirely fringed with low-growing plants, in marked distinction from the stalwart reeds and rushes that encircle Yetholm Loch. On its surface wild-fowl seemed quite at home, while the Coot (*Fulica atra*) and the Black-headed Gull (*Larus ridibundus*) are known to breed on its swampy edges. The present proprietor of Hoselaw, Mr James A. Somervail, informed me that the perch which at one time swarmed in the Loch had entirely disappeared. This fact strikingly confirms the report made by Rev. John Baird, in his description of the parish of Yetholm in the New Statistical Account (1845), namely, "Sometimes, during the most sultry period of summer, shoals of perch are, from some cause unknown, cast out dead upon the margin of the lake." A few carp have been introduced lately, but sufficient time has not elapsed to determine whether they will survive their translation to peaty water. In winter a large number of birds frequent its neighbourhood, among these being Mallards (*Anas boscas*), Shovellers (*Spatula clypeata*), Teal (*Querquedula crecca*), Widgeon (*Mareca penelope*), Pochards (*Fuligula ferina*), Tufted Ducks (*F. cristata*), Golden Eyes (*F. clangula*), Goosanders (*Mergus merganser*), Snipe (*Gallinago caelestis*), Sandpipers (*Totanus hypoleucus*), Redshanks (*T. calidris*), Grebes (*Podiceps cristatus*), and the rarer Sclavonian species (*P. auritus*). Comparatively few bushes adorn the margin, but on the South-East an old plantation lends variety to its bare outline. Girdling the Loch on its Northern shore were many familiar damp-loving plants, such as *Ranunculus lingua* and *R. sceleratus*; *Nasturtium palustre*; *Comarum palustre*; *Carduus heterophyllus*; *Lycopus Europæus*; *Typha latifolia*; *Carex curta*; *C. disticha*; *C. hirta*; and *C. flava*; while outspread upon its extensive surface, here and there, fine patches of Buck-wheat in full flower produced an effect of roseate beauty, varied in intensity of colour with the ripple of the water. *Peplis portula* has likewise been recorded.

Time did not permit of a complete perambulation of its boundaries, but a cursory examination sufficed to assure a profitable excursion in its vicinity to any keen field-naturalist. The Mansion-house lay to the North of the Loch, and could not be passed by, if only to acknowledge the trespass that had been committed; but Mr Somervail's generosity not only forgave the intrusion, but fortified the inner man, and supplied the while what was most needful, a fresh rig for the nether extremities. Replenished and instructed, I retraced my steps about four o'clock, and choosing a cross-country road, which skirted the lands of Hoselaw and Old Graden, ascended the cultivated hillside to the North of Cherrytrees, the home of the late Mr John B. Boyd, long a diligent member of our Club, and always an enthusiastic florist. In the shrubbery near his picturesquely situated Mansion, there grows an exceptionally fine example of the Weeping Holly, while in the low ground to the South, at one time embracing upwards of one hundred acres of moss, but in more recent times thoroughly drained by the construction of that formidable obstacle to cross-country riders—The Stank, are many handsome specimens of hard-wood. Half-an-hour's walk from here brought me by the Mindrum and Cornhill road to Yetholm, after a thoroughly interesting, if somewhat lonely, excursion, which might be easily undertaken by anyone not wholly given over to the worship of the wheel.

Cuthbertshope, Roxburghshire; with an appended Note on Derestreet. By GEORGE WATSON, Jedburgh.

MORE than passing interest pertains to anything connected with St. Cuthbert and his associations with Roxburghshire and the valley of the Tweed—the district in which he spent his earlier years. In Roxburghshire his name is perennially associated with the priory at Old Melrose, regarding which much information can be found in the Chartulary of Melrose, the Melrose Chronicle, *Origines Parochiales Scotiæ*, Morton's Monastic Annals, and the various histories of Melrose Abbey, in addition to the works of Bede and Symeon of Durham.

Above Hawick there was a chapel-of-ease founded long before the time of William the Lion, in whose reign Reginald, a monk of Durham, wrote concerning many miracles performed there and elsewhere in the name of St. Cuthbert. Reginald states that the chapel was erected "in the province of Teviotdale" at an early date by the ancestors of the people in memory of the saint, and that it stood in the vicinity of a river, abounding with fish, which was termed "Slitrieth" (Slitrig). This ecclesiastical edifice appears to have been under the supervision of the church of Cavers, of which Dolfin, from whom Reginald procured his information, was parson at the time in question. In his day the chapel was ruinous; the stone walls only remained, and the holy-water stone, with a cavity on the top, stood outside the door of the chapel in the burial-ground. Although the sacred edifice was roofless, numbers were wont to resort to it on St. Cuthbert's day (20th March) for purposes of

devotion. Those of maturer age, many of whom brought lighted lamps to illuminate the chapel, spent the evening in vigil and prayer within the walls, while the young indulged in religious dances and exercises without. Of the miracles said to have been done here about this time, an account may be read in Reginald's *Libellus de Admirandis Beati Cuthberti Virtutibus* (pp. 284-289). As local antiquarians think, this building was not improbably identical with the chapel which stood on the slope of the hill within 300 yards of Cog's Mill on Slitrig. The foundations only of this edifice can now be traced amidst the clump of trees. Many of the stones were taken to build the neighbouring onstead. Some of these show ornamental work; and in the possession of the farmer there is a small flat stone upon which is chiselled a bishop's crozier. What purpose this stone had served is unknown.

Early in the twelfth century Thor Longus erected a church in honour of St. Cuthbert at Ednam, and endowed it with a ploughgate of land. Among the Border hills, also, there are associations with his name. Before the year 670 Oswy, King of Northumbria, and some English nobles "gave to St. Cuthbert all the land which lies near the river Bolbenda, with these villages—(1) Suggariple, (2) Hesterhoh, (3) Gistatun, (4) Waquirton, (5) Cliftun, (6) Scerbedle, (7) Colwela, (8) Elterburna, (9) Thorburnum, (10) Seocadun, (11) Gathan, and (12) Minethrum."¹ "Bolbenda" is the river Bowmont; the following may throw some light upon the names of the villages:—(1) perhaps Sourhope, or some place in its vicinity; (2) Hesterhaugh, or Steeroch, is the name of the hill near Kirk Yetholm; (3) ? Gateshaw; (4) ? Whitton; (5) Clifton, on Bowmont; (6) obviously a mistake for Merebedle—"the village on the lake"—now Morebattle; (7) ? Colwell, locality unknown; (8) Halterburn; (9) ? Troughburn, on a tributary of the Collee, or Thornington, East of Mindrum; (10) Shotton, two miles from Yetholm; (11) doubtless Yetholm; (12) Mindrum. More definite information is totally wanting regarding some of these places.

¹ Symeon of Durham's Works. I give all names as they are spelt in my authorities.

Recently the present writer came across a place-name which is worthy of being placed on permanent record, thus to help to rescue it from oblivion, as it is undoubtedly connected in some manner with the Border saint. To the North of Bughtrig in Kalewater district there is, between Bucht Burn and Yett Burn, an elevation rising 1000 ft. above sea-level, and designated on the six-inch Ordnance Survey maps "Cuthbertshope Rig." It obtained its name from the fact that in the bifurcation made by the junction of Capehope Burn and Yett Burn, and opposite the mouth of the ravine named Ettlescleuch, there was since very early times a hamlet termed Cuthbertshope. "Hope" signifies "a small narrow vale whose hill-screens approach each other so closely at the bottom as to leave scarcely any level ground." Whether this place was founded by St. Cuthbert during one of his many missionary excursions among the Border hills, or whether it was so termed in memory of his religious zeal, will doubtless never be known; more probably the latter is the case. The place-name never takes the prefix "St."; and I do not find in the list of place-names, etc., any trace that an ecclesiastical structure ever stood there.

As far back as the time of William the Lion there is mention of this place. In that reign (1165-1214) William de Hunum gave to the church of Melrose a tract of land "from the stream of Cuithenop all the way as far as the ditch between Ravenshauue and Cuithbrithishope, and thus by the whole boundary between Richard de Umframvill and myself unto Derestreth towards the West, and from Derestreth descending as far as the boundary of Chatthou, and thus by that boundary between Chatthou and me as far as the stream of Cuithenop."² Before the year 1199 the gift was confirmed by William the Lion, the place bearing the

² Chartulary of Melrose, I., p. 122. Chatthou is clearly the present Chatto; Ravenshauue (later, Rashawe) I cannot identify; the "rivus de Cuithenop" seems to be Capehope Burn, and indeed Innes, in the map given in the Origines, places Cuithenop on the other side of the burn from the present Capehope Yett; regarding Derestreth, I give reasons in an appended note why we should believe it to be the old Roman road.

saint's name being given as "Cudbrihteshope."³ In a confirmation of the possessions of the monastery of Melrose by Alexander II. at Edinburgh, there is mention of "all the lands within the feudal territory of Hunum, from the stream of Quindenhope up as far as the ditch between Raschawe and Cudhbrichteshope."⁴ The same monarch drew up a charter at Roxburgh on 7th March 1226 confirming the lands of Rasawe, in which the places are specified as Cuidenop and Cudbrihteshope.⁵ Note how the spelling approximates to that of Cuthbert's name in the place-name "Kirkecudbright."

In a "charter of Alexander de Chattou concerning the renunciation of Rascaw" there is an obvious clerical misspelling of the name. The charter defines certain lands "from the Eastern part of Derstret by the ascent from the Calne (river Kale) by the sike as far as Scolceuescluch, and by the same sike up to the cross constructed by our consent, and thus in a straight line to the head of Seteburn (? Yett Burn), and by the same burn down as far as the burn which descends from Thedbrichteshop (Cuthbertshope), and thus down to the brook of Cuithenop."⁶ On 8th August 1471 James III. confirmed under the Great Seal of Scotland a charter of Thomas de Hume of Crowdy, in which there is mention of these lands in this district—"Berehope, Simalston (Samieston), Ranaldstoune-rig (Renniaston Rig), Cunyourtoun, Filogir, and Cuthbertishope."

On Stobie's map of Roxburghshire (1770), "Cuthbertshope" is indicated as being still an inhabited place. On Plate XXII. of Roy's Military Antiquities there is given a large-scale plan of this locality—obviously drawn in 1774. Curiously enough, he locates "Cuthberts Hope" at the foot of Ettlescleugh, on the site of a long-vanished hamlet of the same name. This was on the other side of Capehope Burn, almost exactly opposite the real position of Cuthbertshope. The house or hamlet was still standing in 1822, as is indicated on the map

³ Chartulary of Melrose, i., p. 123.

⁴ Ibid., p. 160.

⁵ Ibid., p. 246.

⁶ Ibid., p. 248.

of Roxburghshire drawn by the Kinghorns, Cranston, and Clark in that year. Mr Cuthbert, schoolmaster of Hounam, informs me that the stones of this building—now no longer standing as a memorial of the zealous saint—were taken to build the adjoining sheepfolds; and that the foundations of the building may still be traced. The outlines, however, must be somewhat faint, as they are not marked on the last two editions of the six-inch Ordnance Survey Maps.

There remains an interesting field of research for local archæologists in regard to the roads which traversed our Borderland in ancient times. To do this work thoroughly the antiquarian must know the monastic chartularies, contemporary accounts of English raids, and old maps as intimately as he knows the contour of the land. Regarding Derestreet, it is stated by some writers that it was so designated because it was the road which led to Deira [“Dere” signifies “the men of Deira”]. But more probably it has some connection with “deór” (“a wild animal,” “a deer”; this forms the root of the place-names Derby, Durham, etc.), as in Symeon of Durham’s History it is twice referred to as “Deorestrete,” which the editor of the Surtees Society’s edition of that work states was “the great Roman thoroughfare through the county of Durham from South to North.” This was obviously the great road which came from London through York and thence Northwards over the Cheviots into Scotland, where the continuation is now known as Watling Street. “As regards the history of the road,” said Dr Macdonald in his paper on Roman Roads,⁷ “nothing can be founded on the name Watling Street, applied to it by Horsley and others, as well as on the Ordnance Map. This epithet is, I believe, an importation from the other side of the Border, which, except from books, is quite unknown in Roxburghshire.”

Watling Street, says a reverend writer, “has been traced from Carriden on the Firth of Forth, through Lothian, Lauderdale, St. Boswells Green, and onward to Jedfoot Bridge, the camp at Pennymuir, and Woden Law; and then crossing the

⁷ Proceedings of the Soc. of Antiq.; xxix., p. 322.

Border, it goes by Chew Green, etc.”⁸ There is, I believe, sufficient evidence to prove that the road in Scotland now designated Watling Street was anciently known as Derestreet—a fact which I do not think any previous writer has pointed out.⁹ In the grant by Alexander de Chatto, already referred to, Derestrete lay to the West of Kale river;¹⁰ and in the charter of William de Hounam it is specified as lying to the West of Chatto¹¹—thus agreeing with the position of the Roman road. In a charter granted by Robert de Berkeley in favour of the monks of Melrose, again, Derestrete is indicated as running down the Northern slope of Lilliard’s Edge¹² (as did the Roman road); and in the instrument of John Normanville concerning the boundaries of the lands of Maxton there is reference to Derstret in the same locality. In the same instrument mention is made of the King’s Way (*Regia Via*), “which goes from Annandale (*de valle Annant*) towards Roxburgh.”¹³ This was an ancient thoroughfare which came up the valley of the Liddel, passed over the ridge which divides Liddesdale from Jedwater (being identical for some distance with the road known in later days as Wheel Causeway), crossed over into Rulewater, which it descended for a few miles, and then struck off towards Swinnie, thence across Swinnie Moor, entering the Castlegate of Jedburgh by a

⁸ New Stat. Account—Roxburghshire, p. 259.

⁹ Since writing the above I have found that in *Origines Parochiales Scotiæ* (I., p. 394) Derestreet is identified at one point with the Roman road.

¹⁰ *Chartulary of Melrose*, I., p. 247. In each case I give the name of Derestreet as it is in the original.

¹¹ *Ibid.*, p. 122.

¹² *Ibid.*, p. 78. It was along this road that the English army was returning from Melrose towards Jedburgh in February 1545, when it was overtaken on the Southern slope of Lilliard’s Edge, and defeated by the Scots in the battle of Ancrum Moor. Writing of this shortly before 1578, Lindsay of Pitscottie shows that here the name Derestreet had before his time been supplanted by another; and states that the road, which at that part was so narrow that the English could march along it only two abreast, was termed the “Sandie Callsay” (Sandy Causeway.) See his *Chronicle of Scotland* under that year (*Scottish Text Soc. edition*, II., p. 37.)

¹³ *Ibid.*, p. 219.

road now represented by the Loaning.¹⁴ Its course across the moor may still be traced. From Jedburgh the King's Way proceeded to Roxburgh, thence up Tweed, Lauderdale, and past Newbattle—being identical with Derestreet from perhaps about St. Boswells Northwards.

In a charter of Robert de Londoniis, Derestredt is located at Lessuden (St. Boswells),¹⁵ whence it continued its course up Tweed to the Roman station at Newstead. From here it probably sent a branch towards Melrose and the North-West, while Derestreet itself crossed the Tweed to Leaderfoot, thence following the course of the Leader Northwards. In this vicinity lands are mentioned in the territory of Newtown, "from the Western part of Derestrete in length, and in breadth bordering upon the boundaries of Thirlstan."¹⁶ In a charter of Henry, the son of Samson de Logis, there is a reference to lands—one of the boundaries of which is Derestrete—in the vicinity of Channelkirk.¹⁷ In a territorial gift to Newbattle Abbey, also, there is mention of certain lands near Cranston, to the West of which place "the King's Way, which is called Derestrete," is located.¹⁸ In another writ in connection with the same monastery Derstrette is indicated—somewhat farther North than in the last reference—as running between Newbattle and Cowden.¹⁹ I have not traced its course farther; but these references put it beyond doubt that the ancient Scottish Derestreet was the thoroughfare from the Border to the North known in literature at the present day as Watling Street.

¹⁴ It was along this road that King Edward I. marched in 1296 and 1298. In the former of these years he stopped twice at "Wiel" (Wheel), a hamlet of which no trace now remains. I have not seen Wheel Causeway on record before 1533, although the village and church are mentioned several times before that year. It is probable, therefore, that the ancient way owes its name to the village.

¹⁵ Chartulary of Melrose, i., p. 77.

¹⁶ Liber de Dryburgh, p. 145.

¹⁷ Ibid., p. 123.

¹⁸ Register of Newbattle, p. 8.

¹⁹ Ibid., p. 229. This, the most recent of these references, is dated 1321.

Cist and Urn found on Harelaw Hill, Chirnside. Communicated by JAMES HEWAT CRAW, West Foulden.

(PLATE XVIII.)

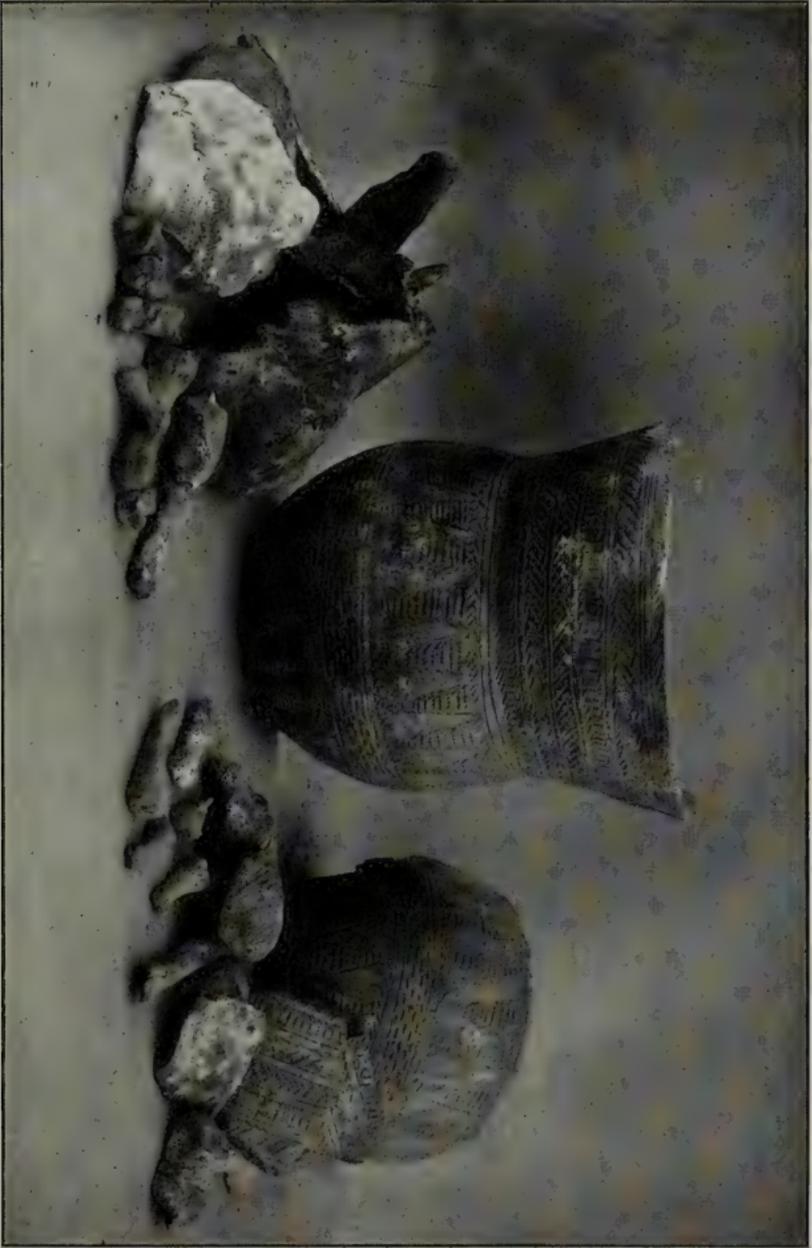
On the 30th March 1906, while excavating a reservoir for the new Chirnside water supply, the workmen discovered a prehistoric burial Cist.

The situation, which is on the crest of Harelaw Hill, about a quarter of a mile North-East of Chirnside village, is the highest point in the parish, being 466 feet above sea-level. On this hill stood at one time a cairn, which seems to have been of considerable dimensions, and which is supposed to have given to Chirnside its name.

The Cist, which lay due East and West, was formed of six slabs, two on each side and one at each end, 27 inches high; one massive stone, 5 feet 8 inches by 3 feet, served as a cover, and employed six men in its removal. The side slabs were placed upright, those at the ends inclined inwards. The length of the Cist was 6 feet, the breadth 3 feet, and the top of the cover was 13 inches below the surface of the ground.

The interior of the Cist was half filled with soil. At the West end were found a number of human bones—part of a skull $\frac{3}{16}$ inches thick, one bone of the hand, and a number of bones of the legs and feet; also a piece of flint showing no trace of manufacture. At the North-East corner was found an earthenware Urn of the drinking-cup type, in an upright position. It was entire when discovered, but was unfortunately broken in removal. No beads or implements of any kind were found either in the Cist or in the Urn, and the bones showed no traces of fire. The following are the measurements of the Urn, which is formed of fine red clay, and is $\frac{5}{16}$ inches thick:—height, $7\frac{1}{4}$ inches; width at top, $6\frac{1}{4}$ inches; width at bottom, $3\frac{1}{2}$ inches; circumference, $18\frac{1}{2}$ inches; circumference at neck, $16\frac{3}{4}$ inches. It is highly ornamented, but has no markings on the bottom, or in the interior. The ornamentation consists of straight dotted lines forming chevrons, herring bones, and zigzags.

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Arthur Seat—its History and Nomenclature. By JOHN GEDDIE, Edinburgh.

ARTHUR SEAT, its name and its early history, furnish almost as much matter of unsettled controversy as do the origin and nomenclature of the neighbouring city. Ingenious attempts have been made to trace the name of the hill to a Celtic root. Maitland's suggestion that it is a corruption of "Ard-na-Said"—the "Height of Arrows," ("for," observes the eighteenth century historian, "no spot of ground is fitter for the exercise of archery, either at butts or rovers, than this")—may be said still to hold the field as an explanation of Arthur Seat, regarded as a Gaelic place-name. It is possible that, as in the case of Edinburgh, we have here an early descriptive name absorbed and modified by a later piece of history or tradition. The tradition that associates the hill with the legendary King of the Silures, who, by what is probably a modern piece of embroidering, is represented as watching from its crown one of his last battles with "the heathen of the Northern Sea," is certainly of respectable antiquity; it is spoken of under the name of "Arthuris Sete," as a place of public resort and for the lighting of bonfires, in Kennedy's "Flying with Dunbar," published in 1508. It may at least be said that of this couchant lion shape mounting guard over the Palace of the ancient Kings—this outstanding feature of an "Arthurian" region—that it well becomes its royal title.

The name of the "Salisbury Crags" has also greatly exercised the minds of the philologists. Hugo Arnot appears to have been the first to offer the explanation that the rocky wall that overhangs, like a breaking wave, the valley of St. Leonard's and the houses of the Old Town, is called after the second Earl of Salisbury—husband of the lady in whose honour the Order of the Garter was instituted—who accompanied Edward III. in his invasion of Scotland in 1336. Although the derivation has been widely accepted, it does not bear the mark of genuineness. This striking feature in the Edinburgh landscape must have borne a name long before the fourteenth century and the brief presence of a stranger, who has otherwise left no memory of his visit (beyond that of his siege of Black Agnes of Dunbar) behind him. More acceptable sounds the interpretation given by Lord Hailes, in his "Annals," that, like the more famous Sarum or Salisbury of the South, the word is of Anglo-Saxon origin; and that *Saeris-beorg* ("Sarisbury" is the earliest recorded form) means the dry or "sere" rock.

Around the shoulders, knees, and feet of Arthur Seat, as well as on its crest and its great outlying buttress, has been bestowed a "commodity of good names;" the "Lion's Haunch," the "Whinny Hill," the "Crow Hill," "Samson's Ribs," the "Raven's Rock," the "Haggis" or "Fairy Knowe," the "Girnal Crag," the "Echoing Rock," the "Scylvers," the "Dasses," "Hunter's Bog," the "Hause," the "Punch Bowl," the "Windy Gowl," the "Cat-nick," the "Guttit Haddie," the "Giant's Grave," by no means exhaust the list. Dunsappie Rock is the only name on the hill that points clearly to a Celtic derivation, although this also is so corrupted that no plausible signification has been suggested. The loch at its feet, like that of St. Margaret's, and like the Queen's Drive, which skirts these ornamental pieces of water, is of recent formation; whereas Duddingston Loch has from time immemorial washed the base of Arthur Seat. The springs of water on and around the hill have their own share of story and romance, although some of them possess modern or transferred names. Thus no genuine association with the "Sair Sanct" is attached to "St. David's Well"; "St. Margaret's Well" has only a shadowy connection with the

pious Queen of Malcolm Canmore, and the beautiful vaulted Gothic canopy under which the waters rise has been transferred hither from the supposed "Rude Well"—the lost spring of the Virgin Saint Triduana at Restalrig—now hidden under locomotive repairing works. The "Wells o' Wearie," immortalised in song, have been sealed up and are hard to discover in the braeface under "Samson's Ribs." But many wayfarers, following the familiar track taken by the members of the Club, still quench their thirst at St. Anthony's Well, mentioned in the moving ballad of "Waly, waly up yon bank," which is supposed by some to record the sorrows of Barbara Erskine, the neglected wife of James, second Marquis of Douglas, the "Jamie Douglas" of another ballad:—

"Oh! Arthur Seat will be my bed,
The sheets will no be pressed by me;
St. Anton's Well will be my drink,
Since my fause love's forsaken me."

St. Anthony's Chapel and Hermitage may be said to represent the only authentic trace of permanent habitation to be found on the Hill. There is, indeed, a curious entry in the *Edinburgh Courant* of 29th October 1728 recording the discovery in the "Cat-nick," the chasm at the highest and almost the only accessible point of the Salisbury Crag, of a shallow pit giving access to "a little snug room or vault, hung with dressed leather, and lighted from the roof, the window covered by a bladder," and "thought to have been the cave of a hermit of ancient times, though now the hiding-place of a gang of thieves." But of this strange place of refuge, if it ever existed, nothing is left. St. Anthony's Chapel itself, although it must have occupied for many centuries a conspicuous position on the Hill, has left little mark in record. It may with practical certainty be identified with "Sanct Anthonis of the Crag," "Sanct Anthonis Chapel besid Edinburgh," mentioned repeatedly in the "Lord High Treasurer's Accounts" of the fifteenth century, and from the fact that it is included within the later limits of the "Sanctuary of Holyrood," it has been assumed that it was attached to the neighbouring abbey. But as Mr F. R.

Coles has pointed out in his "Notes," contributed to the "Proceedings of the Society of Antiquaries of Scotland" for 1895-6, there is no documentary evidence of its foundation or dedication, and its supposed connection with the Preceptory of St. Anthony at Leith, belonging to the Knights Hospitallers, rests on mere conjecture. To the realm of imagination or speculation must also be relegated George Chalmers's statement that in the Hermitage "a succession of anchorites rested their weary age, lived remote from a guilty world," and Grose's assumption that the situation was chosen "with an intention of attracting the notice of seamen coming up the Firth, who in cases of danger might be induced to make vows to its tutelary saint." In the first pictorial view of it, that contained in a Cottonian MS. of 1544, the Chapel is represented as having a gable-roofed tower at the western end. It also portrays a portion of the enclosing wall, which Mr Coles has shown, on the evidence of remains still *in situ*, must have embraced a considerable space of adjoining ground, including the supposed site of the original Hermitage. The ruin has suffered considerable change and dilapidation since it was first described by Maitland in 1750; but it retains sufficient traces of its architectural form and style to make it capable of restoration. One cannot advance far beyond Sir Walter Scott's description:—"The history of the Hermitage has not been handed down to us. The Chapel has been a plain but handsome Gothic building. A high rock rises behind the cell, from the foot of which gushes a pure and plentiful fountain, dedicated, of course, to St. Anthony, the *genius loci*."

Sir Walter himself, however, is the true *genius loci* of Arthur Seat. The Hill, but especially the path by the "Radical Road," was his "favourite morning and evening resort." Here he laid some of the most magically romantic of the scenes in the "Heart of Midlothian." Reuben Butler "saw the morning arise," on the day after the Porteous Riots, from a coign of vantage on the Crag. Jeanie Deans lived in the herd's cottage in the valley below, and kept tryst with Geordie Robertson at "Muschat's Cairn"—the scene of a peculiarly cowardly and brutal wife murder, near the north-eastern entrance to the Park—until Madge

Wildfire's lilt gave notice that there were hawks of the law abroad. Scott's "magic wand created the Radical Road itself; it was built by the hands of the unemployed in the distressful time that followed the Great War, in response to the lament of the author of 'Waverley' concerning the impassable state" into which the pathway around the semi-circular wall of cliffs had fallen.

The crest of Arthur Seat has been the scene of many "alarums and excursions," the goal of curious pilgrimages and penances, since the time when, we are told, "pagan rites were celebrated at sunrise on the bare scalp of the Hill." Of these the annual May Day gathering, not yet entirely abandoned, may possibly be a survival. Races, by fisher-wives and others, have been run to the top of the mountain. We read that, in 1661, there was a foot-race by "twelve browster-wives" from the Figgate Whins to the summit. It is not stated whether the line of approach was by the favourite path by St. Anthony's Well and the "Lang Raw" above the outcrop of the "Dasses," or by the easier ascent from the side of Dunsappie. The final scramble of these aspiring dames was certainly not by the funnel of the "Guttit Haddie," which was torn out of the side of the Hill by a "mighty waterspout" that broke upon the crest of Arthur Seat on 13th September 1764. On May Day 1826, James Burnet, the last Captain of the City Guard, a veteran of seventeen stone weight, climbed to the top by way of St. Anthony's Well in a quarter of an hour, the exploit being timed by William Smellie, the naturalist. This was the year in which the long dispute with the Earl of Haddington regarding the exercise of his rights as Hereditary Keeper of the King's Park came to a height. He had taken to quarrying away the Salisbury Crags for road metal, and the operation was stopped, it is understood, on a hint given to him by George IV., an act which should be put to the credit of that much abused monarch. Seventeen years later, Lord Haddington's rights were purchased by the Government for £20,000, and the Park placed under the charge of the Department of Woods and Forests.

Mary, Queen of Scots, must often have scaled Arthur Seat, and spent some of her sad, as well as pleasant, hours on

its slopes and hollows. In 1564, while still a queen comparatively free from care, she held an open air banquet in the valley of the Hunter's Bog, occupied since 1858 by the Rifle Ranges, but containing in the sixteenth century an artificial lake, the dam of which may still be traced. The joyous occasion was the marriage of the Lord Chancellor, John, fifth Lord Fleming, to Elizabeth, heiress of Robert, the Master of Ross. Coming to more warlike passages, and passing over the doubtful episode of Salisbury's encampment, we find it recorded that in 1572, the Regent Mar, in addition to assailing the Queen's Party, established in the City and Castle, from the Calton Hill and from trenches cast up in the Pleasance, mounted ordnance on the escarpment of the Craggs "to ding Edinburgh with." Arthur Seat was for a time the pivot of the military operations of 1650, in which Cromwell was foiled by the watchful Lesley in his attempt to capture the city from the East; the English, says Nicol in his Diary, "placed their whole horse in and about Restalrig, the foot at that place callit Jokis Lodge, and the cannon at the foot of Salisbury Hill, within the park dyke, and played with their cannon against the Scottish leaguer in St. Leonard's Craggs." Thirty years later, in another national crisis—in expectation of the news of the landing of William of Orange—a beacon was erected on Arthur Seat, to be lighted in communication with those set on the Garlton Hill, North Berwick Law, and St. Abb's.

In 1745, the "Young Pretender" entered the Palace and capital of his ancestors by way of the Hill; he traversed on foot the Hunter's Bog; "mounting a bay gelding at the Haggis Knowe, he was greeted by a cheering crowd in the Duke's Walk, and by a cannon ball from the Castle, which struck James V.'s tower as the Prince alighted in front of Holyrood." In September the Highland Host were encamped on the eastern shoulder of Arthur Seat, under Dunsappie Rock; from thence, on the morning of the 20th, they started, with pipes playing, for the the field of Prestonpans, Prince Charlie dramatically "drawing his claymore and flinging away the scabbard." In 1778—thirty three years later, almost to the day—came "the affair of the Wild MacCraws." The newly embodied Seaforth Regiment,

recruited largely among the Macraes of Kintail, and over a thousand strong, broke out in mutiny when paraded on the Castle Esplanade, previous to embarkation for the East Indies. Their grievance was that they had been enlisted as "Fencibles" for service within these islands, and they suspected that their officers had "sold them" to the East India Company. Half of the regiment, overpowering their officers, marched by the Canongate to Leith Links, where they intercepted the other half which, under Lord Seaforth, were on their way to the place of embarkation. Increased in numbers to 600 men, the mutineers retired to the summit of Arthur Seat, and threw up a trench, breastwork and redoubt, the trace of which can still be seen between the Lion's Haunch, or Nether Hill, and the cone. There they held their ground from the 22nd to the 29th September, when they were induced to make submission. Few of Seaforth's clansmen survived to return to the shores of Loch Dinch; out of 1100 men who sailed from Portsmouth, 230, including their chief and commander, perished at sea, and no more than 310 were able to bear arms when the march for Chingleput began in April 1782. This melancholy incident closes the warlike story of Arthur Seat, unless we are to reckon the great Reviews of August 1860, August 1881 (the "Rainy Review"), and September 1905.

Notes on Berwick Castle and the Modern Owners thereof.

By WILLIAM MADDAN, Berwick-upon-Tweed.

MR SCOTT, in his "History of Berwick," says that the Castle is first mentioned in the time of Malcolm the Maiden, *circa* A.D. 1167, and that the next reference is when it, with the Castles of Edinburgh, Roxburgh, Jedburgh, and Stirling, was delivered to Henry II., under the humiliating treaty of Falaise. The first Castle must have been erected long before A.D. 1167, and was no doubt co-eval with the origin of Berwick as a Royal Burgh, as all the early burghs had a royal Castle erected within their bounds. They were under the King's special and kindly protection, and he exacted his customs, ferm-rent, and other dues. They formed the earliest source of fiscal revenue. Berwick appears to have been one of the earliest (if not the earliest) Burghs in Scotland, and it rose to be the Commercial Capital—though the idea of Capital in our modern sense had not yet emerged. It was certainly the model municipality in the time of David I., and he sent Maynard the Fleming, who had been Provost of Berwick, to inaugurate civic rule in St. Andrews, as Provost of the newly-erected burgh in A.D. 1140. David I. (1124-53), before 1124, while he was only Earl and ruler of Lothian and Cumbria, granted, *circa* 1113,* Charter to the Abbey of Selkirk (afterwards transplanted to Kelso), in which he gave the Monks "in Berwyc unam carrucatam, et unam maysuram

* This date, 1113, is carefully arrived at by Cosmo Innes.—"Early Scot. Hist.," p. 177.

sub ecclesia usque in Twoda: et dimidium unius piscaturæ et septimam partem molendini, et *quadraginta solidos de censu de burgo* per unumquemque annum." This proves that Berwick was a burgh before 1113, and we cannot be far wrong in dating the foundation of the protecting royal castle a few years before that year—probably soon after 1107, when Alexander I. as King, and David as Earl, commenced to reign in Scotland proper, and in Lothian and Cumbria. The romantic and stormy history of the Castle is well known, and requires no recapitulation here. These notes are only thrown together to clear up, so far as possible, its origin in its simplest form, as successive Kings added towers and enlarged its area from time to time. Further, in 1121,* the great Castle of Norham was founded by Bishop Flambard to check the incursions of the Scots, and no doubt also as a counter-move to the erection of a strong Castle at Berwick. It is safe to say that the great Scottish stronghold to protect the rising burgh was erected before the Northumbrian one of Norham. When Elizabeth, in 1560, owing to the introduction of gunpowder and the use of more powerful projectiles, resolved to abandon the decaying and obsolete Edwardian fortifications, and surround the town proper by ramparts up-to-date in the new Italian model, the Castle became isolated, and ceased to be the chief key to the defences. Though still partially occupied, the Castle gradually fell into decay; and when King James I. crossed the Tweed to assume the throne of Britain, it ceased to be of any military importance. King James I. granted the Castle, with all the lands within the Bounds which were not owned by the freemen, to his favourite, † George Home, Earl of Dunbar, who was in 1604 created Lord Home of Berwick, and appointed Governor of Berwick and Warden of the East Marches. On his death

* The great Norman Keep at Newcastle-upon-Tyne was founded by the Conqueror's eldest son, Robert Curthose, in 1080; and another Border fortress, Carlisle Castle, in 1092, by William Rufus. This was the Castle-building age.

† His splendid marble memorial monument (the grandest memorial in Scotland) in Dunbar Parish Church has in recent years been beautifully restored through the munificence of the late Marquis of Bute and others.

at Whitehall, 29th January 1611, he was survived by two daughters—Anne, married to Sir James Home of Cowdenknowes, whose son succeeded to the Earldom of Home; and Elizabeth, wife of Theophilus, second Earl of Suffolk. This brings these inadequate notes to an end, by introducing the following Abstract of Title, which is of much genealogical and topographical interest, and continues the series of owners from the Earl of Suffolk to the family of Askew of Castle-hills and Pallinsburn, who now possess the ruined fragments jointly with the North British Railway Company, who acquired a right from them to run their line straight through the ancient fortress, when the railway was built in 1843:—

“Schedule of Writings or Title Deeds relating to a certain Castle now demolished commonly called Berwick Castle and two Water Corn Mills and one Wind Mill thereunto belonging and other Houses Buildings Hereditaments and premises situate within the Liberties of the Borough of Berwick-upon-Tweed the Property of Mrs Bridget Askew.”

- 9th Aug. 17 Chas. 1st.—*Indenture* of feoffment made between the Right Honble James Earle of Suffolk and Sir Edmund Sawyer of Laywood in the County of Berks Knight of the one part and Sir Robt. Jackson Knight then Mayor of the Town of Berwick-upon-Tweed Sir Thos. Widdrington of the City of York Knight and John Sleight of the said Town of Berwick-upon-Tweed Alderman of the other part.
- 25 Sep. 13 Chas. 2d.—*Indenture* of feoffment with Livery and Seizin indorsed made between said Sir Thos. Widdrington and said John Sleight of the one part and Stephen Jackson of the said Town of Berwick Alderman of the other part.
- 13 Nov. 27 Chas. 2d. 1675.—*Deed Poll* with Livery and Seizin indorsed from Wm. Lord Mordington of Mordington in the Kingdom of Scotland to Stephen Jackson of the Borough of Berwick-upon-Tweed Burgess.

4th Feby. 1700.--*Indenture* of Demise by way of Mortgage made between said Stephen Jackson of the one part and Mary Spencer of Gateshead in the County Palatine of Durham Spinster of the other part.

Same date.—*Bond* from said Stephen Jackson to said Mary Spencer for payment of Mortgage Money of 116*l.*14.

Same date.—*Bond* from said Stephen Jackson and Stephen Jackson Junior of the Borough of Berwick-upon-Tweed to said Mary Spencer for performance of Covenants.

15 Dec. 1705.—*Copy* of the last Will and Testament of said Stephen Jackson the Elder.

5 and 6 March 1724.—*Indentures* of Lease and Release with Livery and Seizen indorsed and ffine thereupon levied according to the Custom of Berwick and made between Stephen Jackson the Elder of the Borough of Berwick-upon-Tweed Gentleman Eldest Son and Heir of Stephen Jackson of the same Borough Alderman deceased and only Brother and Heir of Frances Jackson late of Berwick aforesaid Spinster deceased and Elizth. the wife of the said Stephen Jackson the Elder Stephen Jackson the younger of the same Borough Burgess and Merchant only Son and Heir Apparent of the said Stephen Jackson the Elder and one of the Divisees of the Estate of the said Stephen Jackson his Grandfather deceased and Joseph Lockhart of Berwick aforesaid Burgess and Mary his wife another of the Daughters of the said Stephen Jackson decd. of the one part and Ralph Purdy of the New Mill within the Libertis of Berwick aforesaid Yeoman of the other part.

1 and 2 Aug. 1726.—*Indentures* of Lease and Release made between said Ralph Purdy and Mary his Wife of the one part and Rebecca Fiars of the Borough of Berwick-upon-Tweed Widow of the other part.

2 Aug. 1726.—*Bond* from said Purdy to said Fiars for performance of Covenants.

- 1 and 2 Feby. 1727.—*Indentures* of Lease and Release made between Ann Rowlands of the Borough of Berwick-upon-Tweed Spinster Daughter and Heir of Ann late Wife of Walter Rowland deceased who was one of the three Daughters and three Devises of Stephen Jackson late of Berwick-upon-Tweed aforesaid Alderman also deceased of the one part and the said Ralph Purdy of the other part.
- 12 and 13 Feb. 1727.—*Indentures* of Lease and Release made between said Ralph Purdy and Mary his wife of the one part and Samuel Shell of the Borough of Berwick-upon-Tweed Smith of the other part.
- 30 April 1728.—*Lease* for a year from the said Ralph Purdy and Mary his Wife of the one part and William Shell of the Borough of Berwick-upon-Tweed Burgess of the other part.
- 1 May 1728.—*Indenture* of feoffment made between said Ralph Purdy and Mary his Wife of the one part and said William Shell of the other part.
- 20 July 1728.—*Indenture* Tripartite made between said Rebecca Fyars of the first part said Ralph Purdy of the second part the said William Shell Matthew Forster Junr. of Berwick Doctor in Medicine and John Thompson of the same Borough Burges and Merchant of the third part.
- 18 Nov. 1728.—*Indenture* of Demise by way of Mortgage from said Samuel Shell to said William Shell.
- 29 and 30 Apr. 1731.—*Indentures* of Lease and Release made between Sarah Shell of the Borough of Berwick-upon-Tweed Widow and Relict and Sole Executrix of the last Will and Testament of the said Samuel Shell of the one part and William Shell only surviving Brother of the said Samuel Shell of the other part.

28 July 1736.—*Probate* of the Will of the said William Shell.

18 and 19 Aug. 1775.—*Indentures* of Lease and Release made between the Revd. Josiah Thompson of London Clerk and Margaret his wife one of the Daughters and Coheireses at Law and also a Devisee named in the Last Will and Testament of the said Wm. Shell deceased of the one part and James Burnett of Berwick aforesaid Esq. of the other part.

71 and 18 Feby. 1790.—*Indentures* of Lease and Release made between the said Josiah Thompson and Margt. his wife of the one part and Matthew Forster of the Borough of Berwick Esq. and Burnett Roger Grieve of the Borough of Berwick aforesaid Esq. of the other part.

16 and 17 Aug. 1790.—*Indentures* of Lease and Release the Release being of four parts and made between the said Matthew Forster and Burnett Roger Grieve of the first part the said Josiah Thompson and Margt. his Wife of the second part George Forster of the Borough of Berwick-upon-Tweed Esq. and Wm. Dickson of the Borough of Berwick-upon-Tweed Gent. of the third part and Jas. Bell of the Borough of Berwick aforesaid Merchant of the fourth part.

Abstract of Title to the said premises.

9 and 10 Mch 1792.—*Indentures* of Lease and Release the Release being of three Parts and made between the said James Bell of the first part the said Matthew Forster Burnett Roger Grieve George Forster and Wm. Dickson of the second part and John Askew of Pallinsburn House in the County of Northumberland Esq. of the third part.

10 Mch 1792.—*Bond* from said Matthew Forster Burnett R. Grieve George Forster and Wm. Dickson to said John Askew for peaceable enjoyment, &c.

- 3 and 4 July 1793.—*Indentures* of Lease and Release by way of Mortgage made between said John Askew of the one part and John Pringle of Heaton in the County of Durham Gent. of the other part.
- 7 April 1796.—*Copy* of the Probate of the last Will and Testament of the said John Askew.
- 13 and 14 June 1805.—*Indentures* of Lease and Release the Release being of four parts and made between Isabel Mole of Whittingham in the County of Northumberland Widow only surviving Sister of John Pringle late of Heaton in the County of Durham Gent. deceased and Admix. of all and singular the Goods and Chattels rights and credits of the said John Pringle deced. and which said Isabel Mole and John Readhead of Snitter Barns in the County of Northd. Gent. Nephew of the said John Pringle deceased are also Coheirs at Law of him the said John Pringle deced. of the first part the sd. John Readhead who is only child and Heir at Law of Readhead deced. late Wife of Wm. Readhead of Sharparton in the said County of Northd. Farmer—who was sister of the said John Pringle deceased and who together with the said Isabel Mole are Coheirs at Law of the said John Pringle deceased as afsd. of the second part Bridget Askew of the Borough of Berwick-upon-Tweed Widow and also a Devisee named in the Last Will and Testament of the said John Askew decd. of the third part and Robt. Ancrum of Scremerston in the County of Durham afsd. Gent. of the fourth part—being a transfer of a Mortgage in fee for securing 1000*l.* and Interest.
- 14 June 1805.—Bonds from said Bridget Askew to the said Robert Ancrum in the penalty of £2000 Conditioned for payment of the said sum of £1000 and Interest.

Butterdean. By CHARLES S. ROMANES, Edinburgh.

THESE lands lie in the extreme West of the Parish of Coldingham, but were formerly in the Parish of Oldhamstocks. They consist chiefly of moorland, but there are some portions of good land on the banks of the River Eye.

In early times they belonged to the Nunnery of Abbey St. Bathans. They are now owned by Arthur J. Balfour, Esq., of Whittinghame, M.P. The tenant is Mr Peter Cowe.

The earliest known owners were Ellems, and from the proximity of the lands to those of the Ellems of Ellem, it might be inferred that the lands were conferred at an early period upon some branch of that family, as Henry of Ellem is mentioned in the Ragman Roll.¹

When Alexander de Mowbray appeared at Westminster, and obtained pardon on 18th February 1320-21 from Edward II. for forfeiture of life and limb in wars with the King,² we find Adam de Ellom is granted relief from the Chancellor's dues,³ and receives the King's peace through the Earl of Athol on 27th February 1320-21.⁴ Following upon this we have the earliest references to the lands of Butterdean, when on 15th October 1335-6 the sum of 20/- due therefrom for the Castle Ward of Dunbar is unpaid because the lands were lying waste.⁵ For the same reason, in the following year, the duties are again returned as unpaid in the accounts of the Sheriffs of Berwick, Roxburgh, and Edinburgh.⁶

¹ Calendar Doc. Scot., Vol. II., p. 203.

² Patent Rolls, 14 Edward II., p. 2, M. 22; Cal. Doc. Scot., Vol. 3, p. 136, No. 723.

³ Privy Seal (Tower) Rolls, Edward II., No. 41, File 9; Cal. Doc. Scot., Vol. 3, p. 136, No. 724.

⁴ Close Rolls, Edward II., M. 9; Cal. Doc. Scot., Vol. 3, p. 137, No. 729.

⁵ Calendar Doc. Scot., Vol. III., p. 324.

⁶ Do. do. p. 369.

We next find John de Ellem, who is on the Jury at an Inquisition held on 22nd April 1343, as to the lands of Foulden, forfeited by William de Ramsay.⁷

That the lands of the Ellems of Ellem or other Ellem lands were forfeited prior to this period is proved by the fact that David II. gives a grant to William Wardlaw of certain lands in the Crossgate of Coldingham forfeited by Raulf Eklis, and one plough land in Blenherne forfeited by Henry Ellem.⁸ The Charter relating to this is granted at Edinburgh, 23rd March, in the 33rd year of David II. (1359).⁹

While the lands of Ellem pass out of the hands of the family of that name about this period, and are found in the possession of the Erskines in the reign of Robert III.,¹⁰ yet the family are still in the neighbourhood, and Henry Ellem is followed by a Richard Ellem, who is a witness to a Charter of David II. in favour of the Earl of Dunbar in 1364.¹¹ That this Richard Ellem or his successor was of Butterdean may be inferred from the Records of a perambulation by William Drax, prior of Coldingham, and Adam Foreman, of date 13th November 1430, when Richard of Ellem, George of Ellem, and Alexander of Ellem appear as witnesses.¹² There is, however, a perambulation between the lands of Brokholes and Butterdean, on 14th January 1431, between the Priory and Convent of Coldingham and George de Helham, which affords a variation of the name and an indication that George Ellem might be in possession of the lands at that date.¹³ Richard of Ellem was probably the father of George of Ellem, for George Ellem of Butterdean is involved in a dispute as to the pasturage of the

⁷ Inquisitions Post Mortem, 17 Edward III., No. 8; Cal. Doc. Scot., Vol. 3, p. 257; No. 1409.

⁸ Robertson's Index, p. 44, No. 48.

⁹ Great Seal Reg., Vol. I., p. 27, No. 41; Robertson's Index, p. 73, No. 41.

¹⁰ Robertson's Index, p. 147, No. 5.

¹¹ Robertson's Index, p. 82, No. 169; Great Seal Reg., Vol. I., p. 55, No. 169.

¹² Appendix to Raine's North Durham, Coldingham Charters, No. 638.

¹³ Do. do. No. 639.

Hillside, on 16th April 1434.¹⁴ George de Ellem, Lord of Butterdean, is on the Jury at the retour of Thomas of Lumsdene in the lands of Wester Lumsdene, on 3rd December 1444;¹⁵ and again, when Thomas of Lumsdene is retoured to certain lands in the town and territory of Coldingham.¹⁶ He is also found on the retour of Robert de Aldencraw, as son and heir of Alexander de Aldencraw, in a toft of land in Coldingham, on 7th May 1453.¹⁷

On 8th February 1457 John Ellem is served heir to his father, George Ellem, in certain lands in Coldingham and West Reston,¹⁸ and in 1457 John Ellem gets Sasine in his favour of the lands of Butterdean.¹⁹ In the Exchequer Rolls the Castle Ward duties appear to have been paid for the lands from 1437 to 1460, but it is recorded in 1463 that John Ellem failed to pay his Castle Ward duties for Butterdean.²⁰ When on 2nd August 1465 John, Prior of Coldingham, confirmed by Charter Alexander Home of that ilk in the office of Bailie of the whole kirk, the name of John Ellem appears as a witness to the Notary's docquet.²¹ He is on the Jury at the retour of Mariota Synclar, as one of the heirs of John Synclar, her grandfather, in half of the lands of Kymbyrgiame (Kimmirghame), on 7th April 1467.²² He is a witness to a Sasine in favour of David Home, as son and heir of George Home of Wedderburn,²³ on 9th November 1474.

He is again a witness to a Charter, dated 4th January 1477, by Alexander, Duke of Albany, to Alexander Home, apparent heir of Alexander, Lord Home, of the lands of Lethem;²⁴ and to another, dated 23rd March 1477-8, con-

¹⁴ Appendix to Raine's North Durham, Coldingham Charters, No. 327.

¹⁵ Do. do. No. 633.

¹⁶ Do. do. No. 634.

¹⁷ Do. do. No. 635.

¹⁸ Do. do. No. 637.

¹⁹ Index Lib. Respond. Exchequer Rolls, Vol. 9, p. 666.

²⁰ Exchequer Rolls, Vol. 6, p. 180.

²¹ Earl of Home's MSS., His. MSS. Commission, No. 296, p. 176.

²² Wedderburn MSS., No. 586, p. 258; and Marchmont MSS., No. 6, p. 65.

²³ Wedderburn MSS., No. 12, p. 23.

²⁴ Earl of Home's MSS., No. 235, p. 155.

firming a Charter to Alexander Bennystoun of the lands of Upsetlington.²⁵

He is one of the defenders in an action by Sir John Swinton of Swinton relating to the erroneous delivery of writings in an inquest and breive in favour of Alexander, Duke of Albany, of a chapel upon the lands of Cranshaws, dated 16th July 1476.²⁶ He is a witness to the Marriage Contract of Sibil Home, sister of George Home of Wedderburn, and Henry Hately of Mellerstanes, dated 1st February 1478.²⁷

On 18th December 1475 he is witness to a Charter of Confirmation of the lands of Utterstone Burnhouse, Oxendene Marcus, and Risiriggs, which David Halliburton then resigned.²⁸

On 4th October 1479 John Ellem of Butterdean, James Ellem, Gavin Home of Manderston, and others, were charged with treason in having held the Castle of Dunbar against King James III.^{28a} He had a Charter of the lands of Chirnside, Duns, and Bassendean in his own and his wife Elizabeth's favour, on 19th July 1489, on the resignation of his brother, Richard Ellem;²⁹ but Richard gets Sasine of certain lands in Bassendean, on 14th June 1490.³⁰ In the same year the lands were forfeited for the above act of treason, and were of new conferred on his son, George Ellem.³¹

His daughter, Elizabeth Ellem, is said to have married Christopher Cockburn of Choicelee, youngest son of Sir Alexander Cockburn, Baron of Langton, and Elizabeth Crichton, his first wife.³²

George Ellem of Butterdean is mentioned as a witness to a precept relating to certain lands in Cockburnspath, dated 4th January 1491.³³

²⁵ Earl of Home's MSS., No. 279, p. 167.

²⁶ Acta Auditorum, p. 51.

²⁷ Wedderburn MSS., No. 18, p. 24.

²⁸ Great Seal Reg., Vol. II., p. 294, No. 1428.

^{28a} Acts of Parliament of Scotland, Vol. II., p. 125.

²⁹ Great Seal Reg., Vol. II., No. 1881, p. 396.

³⁰ Exch. Rolls, Vol. 10, p. 153.

³¹ Great Seal Reg., Vol. II., No. 1826, p. 387.

³² Cockburns of that Ilk, p. 289.

³³ Egerton Charters, British Museum, No. 364.

George Ellem is followed by Alexander Ellem of Butterdean, possibly his son, who got Sasine of the lands in 1494,³⁴ and in 1496 he got Sasine of the lands of Wester Borthwick.³⁵ He is on the Jury at the retour of Sir David Home of Wedderburn, as heir of his father, dated 18th January 1497-8.³⁶ Alexander Ellem of Butterdean and Helen Home, his wife, got a Crown Charter of Confirmation in joint liferent of the lands of Wester Borthwick, on 15th February 1502,³⁷ which had been resigned by Alexander himself for new infeftment. In 1506 Alexander Ellem gets Sasine of lands in Cockburnspath,³⁸ and in 1516 he gets barley from the Crown.³⁹ He is again found as a Juryman at the retour of Special Service of Oswald Purves, as heir of William Purvis, his father, in four currucates of lands, on 1st October 1504.⁴⁰

On 7th May 1504 Alexander Ellem of Butterdean is on the retour of Alexander Home to his mother, Margaret Sinclair, in half of the lands of Kimmirghame.⁴¹ A George Ellem gets Sasine of lands in Bassendean in 1529.⁴²

On 20th July 1535 a Charter is granted for the half of certain lands "infra villam et territorum de Hirsell vic. Berwick," which Alexander Ellem of Butterdean had sold to Isabella, Prioress of Cauldstreme, to which a Ninian Ellem is a witness.⁴³

On 25th September 1541 a Crown Charter is granted to Peter Ellem, son and apparent heir of Alexander Ellem of Butterdean, and his heirs, of the lands of Butterdean, West Borthwick, two husbandlands in Mordington, and half hus-

³⁴ Exch. Rolls, Vol. 10, p. 769.

³⁵ Do. Vol. 10, p. 772.

³⁶ Wedderburn MSS., No. 27, p. 28.

³⁷ Great Seal Reg., Vol. II., No. 2698, p. 572.

³⁸ Exch. Rolls, Vol. 12, p. 720.

³⁹ Do. Vol. 14, p. 178.

⁴⁰ Wedderburn MSS., No. 593, p. 260.

⁴¹ Marchmont MSS., No. 12, p. 67.

⁴² Exch. Rolls, Vol. 15, p. 681.

⁴³ Great Seal Reg., Vol. III, No. 492, p. 331. See also Coldstream Charters, p. xxix. and p. 56, where the Charter is quoted in full.

bandland in Cockburnspath, which the said Alexander Ellem has resigned.⁴⁴

On 1st March 1543 Robert Logan of Restalrig, son of Margaret Ellem and Robert Logan of Restalrig, get a Crown Charter of the lands of Mount Lothian in the County of Edinburgh.⁴⁵

On 3rd February 1555-6 Alexander Ellem, natural son of Alexander Ellem of Butterdean, obtains letters of legitimation.⁴⁶

On 12th February 1571 David Ellem, son of the Laird of Butterdean, signs a Bond of Obligation with others to rise against the King's enemies, and particularly against Sir Thomas Ker, sometime of Fairnyhurst, who with certain accomplices, thieves, and broken men of the Borders were about to invade and pursue the Burgh of Jedburgh.⁴⁷

On 15th December 1587 a Charter of Confirmation is granted of a Disposition by Peter Ellem of Butterdean, in favour of his son, John Ellem, and Janet Sinclair his spouse, of the lands of Butterdean, West Borthwick, and others.⁴⁸ This John Ellem evidently died shortly afterwards, leaving an heir in pupillarity, for on 16th December 1591-2 David Ellem in Butterdean, Tutor of John Ellem of Butterdean, gives caution for himself and John Ellem for warding the Marches.⁴⁹

On 16th December 1592 there is a Crown Charter of Confirmation granted in favour of John Ellem of Butterdean, "Nepote" (grandson) of Peter Ellem of Butterdean, of "Ladyhouse" and other tenements in Coldingham.⁵⁰

On 17th May 1597 John Ellem is served heir to his father, William Ellem, in £10, payable from the lands of Slichhouses.⁵¹

⁴⁴ Great Seal Reg., Vol. III., p. 562.

⁴⁵ Do. Vol. III., p. 694.

⁴⁶ Do. Vol. 4, p. 230.

⁴⁷ Privy Council Records, Vol. II., p. 117.

⁴⁸ Great Seal Reg., Vol. 5, p. 488.

⁴⁹ Privy Council Records, Vol. 4, p. 812.

⁵⁰ Great Seal Reg., Vol. 5, p. 762.

⁵¹ Berwickshire Retours, No. 14.

On 10th July 1600 John Ellem of Butterdean was served heir to his grandfather, Peter Ellem, in the lands of Butterdean, West Borthwick, and Dunseillis, two husbandlands in the town and territory of Mordington, and a half husbandland in Cockburnspath.⁵²

John Ellem married Mary Lauder, and he is described as cousin of John Home of West Reston in a Charter which he and his wife granted, on 13th July 1600, to Wm. Shearlaw of Bogangreen, of certain lands in Coldingham called Todhoilaw or Fishbelsyde and Angelsyde.⁵³

Janet Sinclair, relict of John Ellem of Butterdean, left a settlement dated 10th December 1602.⁵⁴

This lady, I imagine, was the mother of the John Ellem of Butterdean, and there appears to be a blunder calling his father *James*, in the after mentioned retour, instead of John [or William], for on 2nd January 1602 we find a Crown Charter of Confirmation confirming (1) the sale of West Borthwick and Dunseillis, with the fishings thereof, by John Ellem of Butterdean and his spouse Mary Lauder, to James Sinclair, brother to Robert Sinclair of Longformacus, and Elizabeth Home his spouse, and (2) the woods of Butterdean and 4 husbandlands there to Sinclair.⁵⁵ On 26th November 1604 John Ellem of Butterdean is on an Assize.⁵⁶

On 25th August 1605 John Ellem of Butterdean is served heir to his grandfather, Patrick Ellem of Butterdean, in three husbandlands in West Reston, two in Crossgait of Coldingham, Ladyhouse, and other tenements in Coldingham.⁵⁷

On 12th May 1606 John Buchanan, W.S., complains that John Ellem of Butterdean is unrelaxed from a horning for not paying a sum of £1000 of principal and £500 of expenses,⁵⁸ and a similar complaint is again made on 27th June 1607.⁵⁹ On 26th October 1606 George Ellem, sometime

⁵² Berwickshire Retours, No. 19.

⁵³ Laing Charters, No. 1534.

⁵⁴ Edinburgh Comr. Records, p. 367.

⁵⁵ Great Seal Reg., Vol. 7, p. 1, No. 2.

⁵⁶ Privy Council Records, Vol. 6, p. 864.

⁵⁷ Berwickshire Retours, No. 58.

⁵⁸ Privy Council Records, Vol. 7, p. 404.

⁵⁹ Do. Vol. 7, p. 413.

in Butterdean, and William Ellem, his brother, are declared fugitives at Jedburgh.⁶⁰

On 4th October 1610 John Ellem of Butterdean was served heir to his father, *James* Ellem of Butterdean, in the before mentioned lands.⁶¹

The family must have been engaged in some rebellion about this time, for as the result of the horning above referred to, the lands then seem to pass into the hands of the Cockburns, for on 5th December 1615 we find the settlement of Mr Robert Cockburn of Butterdean, advocate, recorded;^{61a} and on 3rd May 1627 Robert Cockburn of Butterdean is served heir to his father, Mr Robert Cockburn of Butterdean, in the lands of 'Tounrig, Wester Borthwick, and Dunsceillis, with the common pasturage of Chirnside, in the Parish of Oldhamstocks;⁶² and in June 1633 Cockburn of Butterdean undertook to have horses and carts for the King's baggage.⁶³

Though Robert Cockburn of Butterdean sold the lands of Wester Borthwick and Dunshiells on 2nd February 1630,⁶⁴ he retained Butterdean, which he thereafter also sold, for we find he and his spouse Grizzel Cunningham resigning the lands, for which Patrick Douglas of Kilspindie gets a Crown Charter on 11th May 1636.⁶⁵ Patrick Douglas disposes them to Robert Douglas of Blackerston in August 1642; and Robert Douglas, with consent of Patrick, conveys them to Alexander Hay of Monkton, who on 5th July 1643 obtained a Crown Charter of them in his favour.⁶⁶

From the Hays of Monkton the lands passed to the Hays of Aberlady, for on 22nd October 1663 Mr John Hay of Aberlady is served heir to his father, Mr William Hay of Aberlady, in all of the above lands.⁶⁷ Then on 22nd

⁶⁰ Privy Council Records, Vol. 7, p. 727.

⁶¹ Berwickshire Retours, No. 95.

^{61a} Edinburgh Commissary Records.

⁶² Berwickshire Retours, No. 154.

⁶³ Privy Council Records, New Series, Vol. 5, p. 72.

⁶⁴ Great Seal Register, Vol. 9, No. 834, p. 304.

⁶⁵ Do. Vol. 9, No. 536, p. 195.

⁶⁶ Do. Vol. 9, No. 1361, p. 508.

⁶⁷ Berwickshire Retours, No. 324; Haddington Retours, No. 266; General Retours, No. 4658.

October 1668 John Hay of Aberlady is served heir to his father, Mr John Hay of Aberlady, in the same lands.⁶⁸ At or about this period the lands pass out of the hands of the Hays, for on 23rd December 1669 Sir Andrew Fletcher of Aberlady obtains a Ratification from Parliament of certain rights which Mr Patrick Douglas of Kilspondie obtained from James VI., on 12th July 1589, including the lands and Barony of Butterdean,⁶⁹ which had then been resigned by John Hay of Aberlady, with consent of his uncle, Harry Hay, commissary of Edinburgh, his Tutor at Law, who was served Tutor to him on 24th July 1668.⁷⁰ John Hay must have died in pupillarity, for he was succeeded by his brother, William Hay, who was served heir to his grandfather, William Hay, on 26th April 1676.⁷¹

On 31st October 1676 Archibald Fletcher, as heir of Lord Andrew Fletcher of Aberlady,⁷² is served heir in the lands. He was, however, a pupil, for on 1st March 1676 Andrew Fletcher of Saltoun, son of Robert Fletcher of Saltoun, is served Tutor to Archibald, John, and Margaret Fletcher, children of Andrew Fletcher of Aberlady, his uncle.⁷³

On 18th May 1686 John Fletcher, as heir of his brother, Archibald Fletcher of Aberlady, is retoured to the lands.⁷⁴ John, in turn, is succeeded by his son, Andrew Fletcher, who, on 1st September 1691, is served heir to the lands.⁷⁵

On 9th September 1719 Beatrice, Margaret, and Mary, daughters of Sir Andrew Fletcher of Aberlady, are served heirs portioners special in the lands of Butterdean, etc., to their nephew, Andrew Fletcher of Aberlady, who died April 1710.⁷⁶

The lands finally pass into the hands of James Balfour of Whittinghame, second son of John Balfour of Balbirnie, grandfather of the present owner.

⁶⁸ Berwickshire Retours, No. 353; Haddington Retours, No. 296.

⁶⁹ Acts of Parl., Vol. VII., p. 652.

⁷⁰ Inq. de Tutila, No. 935.

⁷¹ General Retours, No. 5904.

⁷² Berwickshire Retours, No. 392.

⁷³ Inq. de Tutila, No. 1009.

⁷⁴ Berwickshire Retours, No. 422.

⁷⁵ Do. No. 438.

⁷⁶ Index Service of Heirs.

Obituary Notice of Captain Forbes, R.N. By COMMANDER
F. M. NORMAN, R.N.

By the lamented death, at Berwick-upon-Tweed, on 24th June 1905, of Captain James Arthur Forbes, R.N., the Club was deprived of one of its oldest and most esteemed members, who, although not a specialist in any particular branch, and not a contributor to its Proceedings, took a lively and intelligent interest in its excursions, at which he was a constant attendant throughout his long membership of thirty years.

Captain Forbes, who was born at West Coates, Edinburgh, on 25th February 1831, was the son of George, 3rd son of Sir William Forbes, 6th Baronet of Pitsligo, a prominent Edinburgh banker, and Mary his wife, daughter of Sir John Hay, 5th Baronet. Having been educated at Edinburgh Academy, and Grange School, Sunderland, he entered the Royal Navy in 1846; and after varied services, including the Burmese War (1852) and Baltic (1854-5), attained the rank of Commander in 1866. In 1867 he married Fearnie Jemima, daughter of James Kinnear, W.S., of Edinburgh, widow of Professor Aytoun, D.C.L., the issue of the marriage being five sons and two daughters. From 1870 to 1873 he was Inspecting Commander of the Coastguard at Berwick, where he settled down for the remainder of his life. He was placed on the retired list in 1873, and advanced to the rank of Captain in 1881.

Captain Forbes was a prominent Freemason, and exerted himself in many directions for the benefit of his adopted town; and being of a singularly upright, kindly, and benevolent disposition, was greatly respected and esteemed.

*Obituary Notice of the Rev. James Farquharson, D.D.,
Selkirk.* By T. CRAIG-BROWN, Selkirk.

WE have to record the death of a respected, and at one time an active, member of the Club—the Rev. James Farquharson, D.D., minister of Selkirk, which took place at Corstorphine on 25th April 1906. Dr Farquharson, who was born on 13th December 1832, was a son of the Rev. James Farquharson, LL.D., F.R.S., for thirty-one years minister of Alford in Aberdeenshire. Educated partly at the parish school of Clatt and partly at the Grammar School of Aberdeen, he entered Marischal College in 1846, and graduated in 1850. In that year he was enrolled as a student of Divinity, finishing his four sessions in 1854, when he was licensed to preach. He was a distinguished student, the professor of Hebrew ranking him among the best that ever attended his classes. After being licensed he became assistant to Dr Forsyth, minister of the West Parish of Aberdeen, where, in missionary work amongst the poor and in the duties of chaplain to the Blind Asylum, as well as to a Hospital for Children, he acquired valuable experience. After a few weeks in Edinburgh, as assistant to the minister of St. Luke's, he was, in 1857, presented by the Duke of Roxburgh to the parish of Selkirk, in succession to the Rev. John Campbell. As Mr Campbell was presented in 1805, the incumbency of the two ministers has stretched over the long period of 100 years; and a curious coincidence is that they both died on the 25th April.

The office of the pastorate of Selkirk is of extreme antiquity, stretching back to the date, probably in the 11th century, when the establishment of a church for the Forest Shiels gave rise to the name of Scheleschirche. The first known "Abbot of Selkirk" (1113-1116) succeeded St. Bernard as head of the Benedictines in Tiron, France; and the long roll of priests, vicars, and ministers, who have filled the parish pulpit since that time, contains many distinguished names, perhaps the most remarkable being that of Welsh, the son-in-law of Knox, for years Protestant minister of St. Jean d'Angely. None of them can have surpassed the clergyman whose death we now record, in single-hearted and strenuous devotion to the duties of his office. The first thing to which Dr Farquharson had to devote himself was the erection of a new church, the old one (built in 1748) being small and unhealthy. Not without difficulty he had the new building begun in 1861, and in 1863 it was formally opened—commodious internally, but in external architecture something worse than a failure, and an unhappy contrast to its beautiful predecessor of 1629, described by Mr Lowther as "a very pretty church, in form a cross house, the steeple fair, handsomely tiled as the Royal Exchange at London, having at each corner four pyramidal turrets, etc." It has since been slightly improved in appearance by the addition of an apse, in which room has been found for an organ of exceptionally fine tone, Dr Farquharson being a keen supporter of the movement for improving the services of public worship. His parish was twice reduced in area during his ministry—once in 1857 by the absorption of part of it into the *quoad sacra* parish of Caddonfoot, and again in 1878 when a large portion was taken to form the *quoad sacra* parish of Heatherlie; but, owing to rapid increase between 1860 and 1890, the population of the parish was at his death as large as when he became minister. In addition to the care of his parish, he undertook the duties first of Clerk of Presbytery, and then of Clerk of Synod, was a regular attender at the General Assembly, and gave valuable service on several of the Church Committees. Although he had been selected to preach before the Lord High Commissioner, Dr Farquharson

never achieved extensive reputation as a preacher. Essentially of the Evangelical school, he was perhaps too much dominated by the Calvinistic aspect of theology to achieve pulpit popularity in these modern days. Not that he lacked either breadth of mind or tenderness of heart, but rather that in the fight between native charity and acquired "divinity" he felt it his duty to let the side he believed to be logical have the best of it. His belief in the dread consequences of depravity or heterodoxy only added pathos to his appeals that his hearers should stand in the old ways, and so find salvation. His theology never narrowed his sympathies, and on the occasion of the Scott Centenary he delivered a speech described by no meaner judge than Mr Russell of the *Scotsman* as one of the finest evoked by the occasion. He had in fact considerable literary gifts, and those who best knew him were most gratified when, in 1887, his *Alma Mater* conferred on him the degree of Doctor of Divinity. With a certain wiriness of frame, Dr Farquharson had all his life a slight weakness of constitution which developed into chronic bronchitis. After a most gallant fight, he had to confess himself beaten, and to give up the active labours of his ministry. In 1899 he retired to Edinburgh, the Rev. George Lawson being appointed his assistant and successor.

It used to be said by old friends who knew him in his early manhood that Dr Farquharson's true vocation was Natural History. While but a boy he joined with enthusiasm in the pursuits of his father, who contributed various papers to the "Royal Society Transactions" on Meteorology, Natural History, and kindred subjects; and he had the good luck to find in his schoolmaster, the Rev. John Minto, M.A., another notable and keen botanist. It is not astonishing that at College his chief success was in the domain of Natural History. Professor Macgillivray, having fallen into bad health in 1851, selected young Farquharson to conduct his class for him, a choice ratified by the Senatus, although the tutor was only in his twentieth year. He continued to act as the Professor's substitute during all the session of 1851-2; and, when Dr Macgillivray died, he undertook charge of the class during 1852-3 at the special request of the Senatus—a high tribute

to the talent of so young a man. In these circumstances it is surprising that Dr Farquharson had been minister of Selkirk for eight years before, in 1865, he became a member of the Berwickshire Naturalists' Club; and still more surprising that other eleven years elapsed before his name appeared as contributor to our Transactions. His first paper (Vol. VIII., p. 77), read at the Selkirk meeting of the Club in 1876, contains a valuable list of flowering plants and ferns found within the county, prefaced by a brief outline of the geographical, geological, and meteorological conditions under which they grow. It is followed by notes on the leafing of certain trees, based on observations from 1861 to 1876. In the same volume (p. 473) there is a paper "On Howebottom, the Hained Ground at Bowhill," in which Dr Farquharson found full scope not only for his scientific bias but for his appreciation of the historical, literary, and legendary associations of the Forest Shire. These, his principal contributions, were followed from time to time by:—

Notes on the effect of the winter of 1878-9 on gardens and shrubberies, Vol. IX., p. 155; Do., 1879-80, Vol. IX., p. 349; Do., 1880-1, Vol. IX., p. 565; Plants at St. Mary's Loch, Vol. IX., p. 275; Do., Holy Island, Vol. IX., 258, 355.

Dr Farquharson was President of the Club for the year 1881-2, and his Presidential Address, occupying nearly sixty pages of the Transactions, may be said, by its wide range of subjects, to cover the entire ground of our Club's activity, and at the same time to reveal the cyclopedic extent of its author's sympathies and attainments.

Shortly after his appointment to Selkirk Dr Farquharson married Martha, daughter of Mr Alexander Hector, W.S., Edinburgh, and sister of Sir James Hector, K.C.M.G., Knighted in 1887 for his services as Director of the Geological Survey of New Zealand. He is survived by his widow and two daughters.

Account of Rainfall in Berwickshire—Year 1905. Com-
municated by JAMES HEWAT CRAW, West Foulden.

	Hirsel. (Mr McAndrew.)	St. Abb's. (Bd. of N. Lights.)	Lochton. (Mr Aitchison.)	West Foulden. (Mr Craw.)	Manderston. (Mr Marshall.)	Cowdenknowes. (Mr Robertson.)	Marchmont. (Mr Wood.)	Duns Castle. (Mr Redpath.)
Height above sea-level.	94'	200'	150'	250'	356'	360'	500'	500'
January	0·72	0·44	0·55	0·28	0·25	0·90	0·62	0·44
February	0·93	0·90	0·75	0·72	0·94	1·33	0·96	1·10
March	1·95	1·80	1·79	2·19	2·36	3·09	2·62	2·27
April	2·67	2·59	3·18	2·31	3·00	2·34	3·73	3·75
May	0·99	0·62	0·62	0·65	0·97	1·23	0·77	0·73
June	0·26	0·05	1·00	0·32	0·34	1·55	0·32	0·41
July	1·76	2·58	2·40	2·91	1·93	2·12	2·28	2·00
August	3·18	2·66	3·50	3·20	3·64	5·88	3·99	4·04
September	1·73	1·59	2·34	2·18	3·00	2·00	3·05	2·87
October	3·72	3·69	3·38	4·45	3·72	2·11	3·63	3·94
November	3·83	3·50	3·90	4·27	4·49	3·78	4·64	4·76
December	0·70	0·52	0·57	0·35	0·72	1·14	0·78	1·50
Total	22·44	20·94	23·98	23·83	25·36	27·47	27·39	27·81

Account of Temperature at West Fouldeu—Year 1905. Com-
municated by JAMES HEWAT CRAW, West Fouldeu.

			Max.	Min.
January	...	...	46°	24°
February	...	...	48°	25°
March	...	...	51°	30°
April	...	...	57°	25°
May	...	...	70°	32°
June	...	...	80°	40°
July	...	...	80°	41°
August	...	...	72°	44°
September	...	...	78°	32°
October	...	...	62°	28°
November	...	...	51°	16°
December	...	...	52°	29°
			—	—
			80°	16°

*List of Donations from Scientific Societies: July 1905—
May 1907.*

Australian Museum—

- Report for Year 1903-4.
Records, Vol. 5. Nos. 4 and 6.
Vol. 6, Nos. 1-4.
Memoir, No. 4, Part 9.
51st Annual Report of Trustees.
52nd do. do.

Bath Natural History and Antiquarian Field Club—

- Proceedings, Vol. 10, Nos. 2-4.
Vol. 11, No. 1.

Belfast Naturalists' Field Club—

- Annual Report and Proceedings, Series II., Vol. 5,
Parts 1-5.

**Bericht der Oberhessischen Gessellschaft für Natur und Heil-
kunde Zu Giessen—**

- Medizinische Abteilung, Band 1.

Boston Society of Natural History—

- Proceedings, Vol. 30, Nos. 3-7.
Vol. 31, Nos. 1-10.
Vol. 32, Nos. 1 and 2, 4-12.
Vol. 33, Nos. 1 and 2.
Memoirs, Vol. v., Nos. 8-11.
Vol. vi., No. 1.
Occasional Papers, No. vii., Parts 1-7.
Price List of Publications.

British Association for the advancement of Science—
Vols. 1903-4-5.

British Association Corresponding Societies' Committee—
Vols. 1902, 1904, 1905, 1906.

British Museum (Natural History)—Geology and Palæontology
Department—

Guide to Mammals, Fossils, and Birds.

Department of Zoology—

Guide to the Gallery of Birds.

How to collect Diptera.

Bloodsucking Flies, Ticks, etc., and how to collect
them.

Brooklyn Institute of Arts and Sciences—

Cold Spring Harbour Monographs, Nos. 1-5.

Cardiff Naturalists' Society—

Transactions, Vols. 36, 37, 38.

Colorado, University of—

Studies, Vol. I., No. 4.

Vol. II., Nos. 1-4.

Vol. III., No. 1.

Cornwall, Royal Institution of—

Journal, Vol. 16, Parts 1 and 3.

Croydon Natural History and Scientific Society—

Proceedings and Transactions, 1902-3.

Dublin Royal Society—

Scientific Transactions, Vol. 8 (series II.), Parts 2-16,
with title-page, contents, and index.

Vol. 9 (series II.), Parts 1-5.

Scientific Proceedings, Vol. 10 (new series), Parts 1-3.

Economic Proceedings, Vol. 1, Parts 4, 6-9.

Dumfriesshire and Galloway Natural History and Antiquarian Society—

Proceedings, 1900-5.

Edinburgh Botanical Society—

Transactions, Vol. 23, Part 2.

Edinburgh Field Naturalists' and Microscopical Society—

Transactions, Vol. v., Parts 2-4.

Edinburgh Geological Society—

Transactions, Vol. 8, Parts 2 and 3, and Special Part.

Edinburgh Royal Society—

Proceedings, Vol. 24.

Vol. 25, Parts 1 and 2.

Vol. 26, Parts 3-6.

Essex Institute—

The Physical Geography, Geology, Mineralogy and
Palæontology of Essex County, Massachusetts.
Sears.

Geological Survey of the United Kingdom—

Memoirs of 1902, 1903, 1904-5.

Germination de l'Asgosphore de la Truffe—

Boulangier.

Glasgow Natural History Society—

Transactions, Vol. vi. (new series), Part 3.

Vol. vii. (new series), Parts 1-3.

Glasgow Royal Philosophical Society—

Proceedings, Vols. 34, 36, 37.

Hawick Archæological Society—

1881-5, 1898-1902, 1903, 1905.

Hull Scientific and Field Naturalists' Club—

Transactions, Vol. II.
Vol. III., Nos. 1-3.

Liverpool Literary and Philosophical Society—

Proceedings, No. 58, Session 1904-5.

Manchester Literary and Philosophical Society—

Memoirs and Proceedings, Vol. 47, Parts 5 and 6.
Vol. 48, Parts 1-3.
Vol. 49, Parts 2 and 3.
Vol. 50, Parts 1-3.
Vol. 51, Parts 1 and 2.

Manchester Microscopical Society—

1903-4-5.

Montgomeryshire Collections Historical and Archæological—

Vol. 33, No. 2.
Vol. 34, Nos. 1 and 2.

Naturalist, The—

Nos. 559, 560, 563.

Newcastle-upon-Tyne Society of Antiquaries—

Proceedings, Vol. x., Index pp. 1-92, and pp. 341-48
of an Index.
Vol. I. (3rd series), pp. 9-32, 53-280.
Vol. II. (3rd series), pp. 33-44, 77-192,
201-248, 253-336, 341-418.
Vol. III. (3rd series), pp. 1-36.
Cover, title-page, and preface to Register of Baptisms,
Marriages, and Burials, of the parish church of
Elsdon, and pp. 125-168, 177-220, 229-267.
Programme of the seven days' pilgrimage along the
Roman Wall, June 23-30 1906.
Archæologia Æliana, Part 61 (Vol. 25, Part 2).
Vol. I. (3rd series).

Norfolk and Norwich Naturalists' Society—

Transactions, Vol. 7, Parts 4 and 5.

Vol. 8, Part 2.

Northants Natural History Society and Field Club—

Vol. 13, Nos. 101-104.

Northumberland and Durham and Newcastle-upon-Tyne—

Natural History Transactions, Vol. 14, Parts 2 and 3.

Vol. 15, Part 1.

Vol. 1 (new series),

Parts 1 and 2.

Vol. 2 (new series).

Report of the Council for Annual Meeting, 12th
October 1904.

Nova Scotian Institute of Science—

Proceedings and Transactions, Vol. II., Parts 1 and 2.

Ornithological Notes from Norfolk, 1900, 1901, 1902, (3 vols.)
Gurney.

Perthshire Society of Natural Science—

Transactions and Proceedings, Vol. III., Parts 3-5.

Vol. IV., Parts 1-3.

Plymouth Institute and Devon and Cornwall Natural History
Society—

Annual Report and Transactions, Vol. 14, Part 2.

Royal Physical Society—

Proceedings, Vol. 15, Part 2.

Vol. 16, Parts 1, 3, 6, 7.

Vol. 17, Part 2.

Scottish Natural History, Annals of—Nos. 49, 51, 52.

Stirling Natural History and Archæological Society—

Transactions, 1902-3, 1903-4.

St. Louis Academy of Science—

Transactions, Vol. 12, Nos. 9 and 10.

Vols. 13, 14, 15, and 16.

Classified list of papers and notes contained in Vols.
1 to 14.

Tufts College—

Studies. Scientific Series. No. 8.

Université de Rennes—

Travaux Scientifiques, Tome IV., 1905.

University of Upsala—

Bulletin of the Geological Institute, Vol. 6, Nos. 11-12.

Vol. 8, Nos. 13-14.

U.S.A. Geological Survey—

Bulletin, No. 191.

Nos. 195-207, 209-217.

Mineral resources of the United States, 1901.

Water Supply and Irrigation Papers, Nos. 65-87.

Monographs 44 and 45, with large Atlas.

Professional Papers, Nos. 9, 10, 13, 14, and 15.

Vierunddreissigster Bericht der Oberhessischen Gesellschaft
für Natur und Heilkunde.

Financial Statement for the Year ending 12th October 1905.

INCOME.

	£	s.	d.	£	s.	d.
Balance brought forward from previous Account				161	1	8
Arrears paid	39	10	0			
16 Entrance Fees	8	0	0			
291 Subscriptions	110	15	0			
	<hr/>			158	5	0
Bank Interest on Deposit Account				1	13	11
Proceedings sold				1	2	0
	<hr/>			£322	2	7

EXPENDITURE.

Printing Proceedings, etc., 1903	88	15	7			
Hislop & Day—Engravers' Account	0	19	7			
Berwick Museum—One Year's Rent	3	10	0			
Salmon Co.'s Account	5	0	8			
Organizing Secretary's Expenses ..	5	0	0			
Editing Secretary's do.	3	14	8			
Treasurer, Stamps, Bank Commissions, and Incidental Expenses	5	10	7			
Grieve—for Rubber Stamp	0	1	2			
Bank Charges	0	3	0			
	<hr/>			112	15	3
Balance, 12th October 1905—						
On Deposit A/c with Commercial Bank of Scotland, Berwick	200	0	0			
Interest on do. do.	1	13	11			
On Current A/c do.	7	13	5			
	<hr/>			209	7	4
	<hr/>			£322	2	7

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