



S. 51.

Vol. XVII.

THE TRANSACTIONS

AND

JOURNAL OF PROCEEDINGS

OF THE

DUMFRIESSHIRE AND GALLOWAY

Natural History and Antiquarian Society

FOUNDED NOVEMBER, 1862.

SESSIONS 1900-1901 TO 1904-1905.

PRINTED AT THE STANDARD OFFICE, DUMFRIES.
1906.



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Vol. XVII., Parts 1 and 2.

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AND

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OF THE



DUMFRIESSHIRE AND GALLOWAY

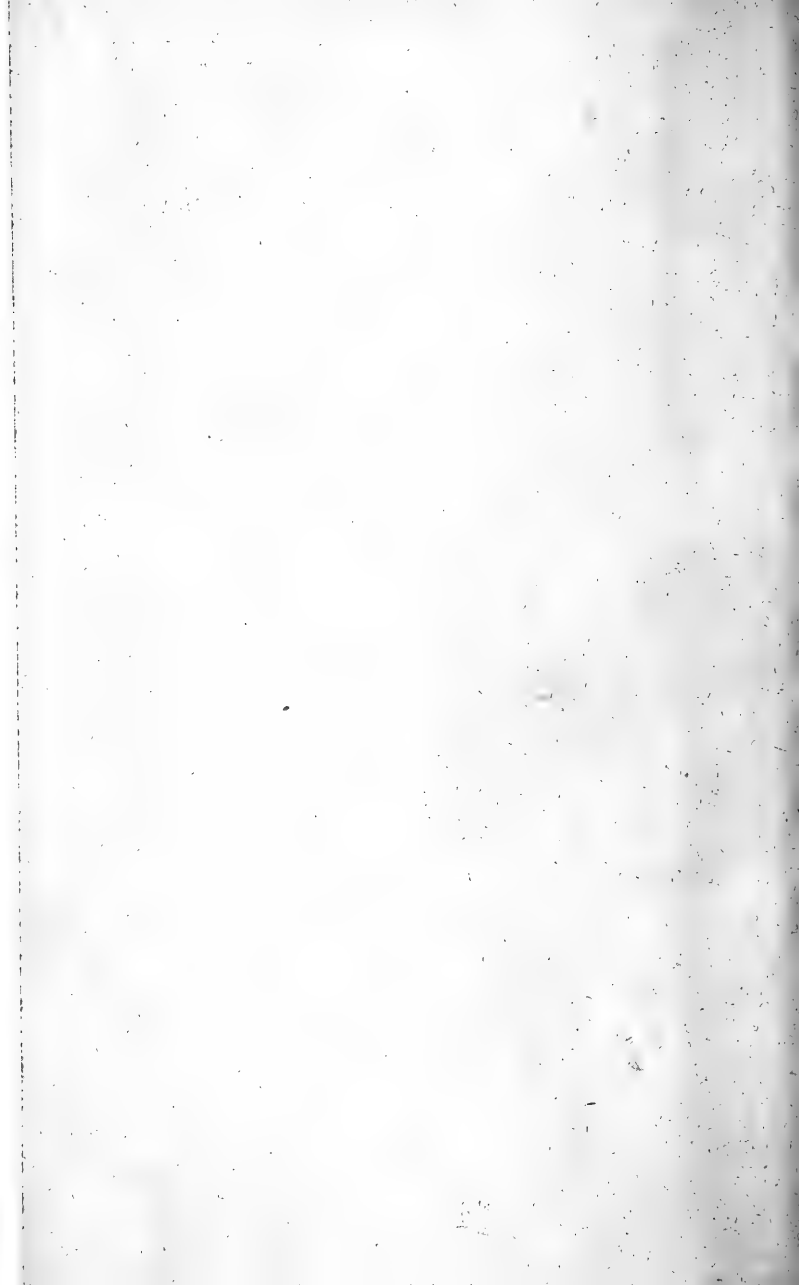
Natural History and Antiquarian Society

FOUNDED NOVEMBER, 1862.

SESSIONS 1900-1901, 1901-1902.

PRINTED AT THE STANDARD OFFICE, DUMFRIES.

1905.



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1905.

Note as to the Publication of the Transactions.

The Council of the Society desire to intimate that to facilitate the binding of the Annual Transactions it has been resolved that a Volume shall consist of Five Annual Publications. The Volume now published for the years 1900-1, 1901-2 is therefore numbered Volume XVII., Parts 1 and 2, and the next issue for the years 1902-3, 1903-4 will be numbered Volume XVII., Parts 3 and 4, the succeeding issue being Part 5, which will contain the Transactions for the year 1904-5, and will complete Volume XVII. The pages of the parts forming each volume will be numbered consecutively throughout. Each volume will have a complete Index.

Dumfries, March, 1905.

Addendum to List of Honorary Members.

James M'Andrew, 21 Gillespie Crescent, Edinburgh.

Council for Session 1904-5.

President.

GEORGE F. SCOTT-ELLIOT, of Newton, Dumfries, M.A., B.Sc., F.L.S.,
F.R.G.S.

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ROBERT MURRAY, George Street, Dumfries.

ROBERT SERVICE, Seedsman, Maxwelltown.

JAMES BARBOUR, F.S.A.(Scot.), Architect, Dumfries.

JAMES MAXWELL ROSS, M.D., Medical Officer of Dumfriesshire,
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Secretary and Treasurer.

J. A. MOODIE, Solicitor, Bank of Scotland, Dumfries.

Librarians and Curators of Museum.

REV. WM. ANDSON, Ivy Bank, Dumfries, and JAMES LENNOX,
F.S.A.(Scot.), Edenbank, Maxwelltown.

Curators of Herbarium.

The PRESIDENT AND MISS HANNAY.

Other Members.

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J. W. MARTIN, M.D., Holywood.

WILLIAM M'CUTCHEON, B.Sc., the Academy.

JAMES DAVIDSON, F.I.C., Summerville, Maxwelltown.

WILLIAM SEMPLE, M.A., B.Sc., Ph.D., the Academy.

SAMUEL ARNOTT, F.R.H.S., Carsethorn, by Dumfries

WILLIAM DICKIE, Merlewood, Maxwelltown.

JOHN TOCHER, Chemist, Dumfries.

Miss HANNAY, Langlands, Dumfries.

Miss CRESSWELL, Nunholm, Dumfries.

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PROCEEDINGS AND TRANSACTIONS

OF THE

DUMFRIESSHIRE AND GALLOWAY

NATURAL HISTORY & ANTIQUARIAN SOCIETY.

SESSION, 1900-1.

26th October, 1900.

ANNUAL MEETING.

Mr JAMES BARBOUR, F.S.A., Architect, in the chair.

New Members.—Mr R. Y. Pickering of Conheath; Mr Robert G. Mann, Cairnsmore, Dumfries; Mr W. H. Veitch, Hoddon Estate Office; Mr Charles Watson, Solicitor, Annan; Mr James Ballantyne, Editor, *Courier and Herald*; and Mr Bertram M'Gowan, Solicitor, Dumfries.

Donations and Exchanges.—Memoirs of Peabody Museum I., 1, 2, 3, 4. New York Academy of Sciences, the Devonian Lamprey. Transactions of Canadian Institute, semi-Centennial Memorial Volume; Bulletin of the Geological Institution of the University of Upsala; Comunicaciones del Museo Nacional de Buenos Ayres, Tomo I., 6; Year-book of the Department of Agriculture, U.S.A., 1899; Proceedings of the Society of Antiquaries of Scotland, 1898-99; Proceedings and Transactions of the Nova Scotian Institute of Science, X., 1; U.S. Department of Agriculture, Legislation for Protection of Birds, Revision of American Voles

of the genus *Microtus*; Proceedings of the Canadian Institute II., 3; Proceedings of the Academy of Natural Sciences of Philadelphia, Pt. III., 1899. U.S. Department of Agriculture—Food of Bobolinks, Blackbirds, and Grackles, by F. E. Beal; North American Fauna, No. 18; Revision of Pocket Mice of the genus *Ferognathus*, by Wilfrid H. Osgood. Proceedings of the Natural Science Association of Staten Island, Vol. vii., 15, 16, 17, 18; Transactions of Glasgow Natural History and Antiquarian Society; Publications of the Carnegie Museum, Pittsburg, 6, 7; Proceedings of the Davenport Academy of Natural Sciences, Vol. vii., 1897-99; Proceedings of the Rochester Academy of Science, Vol. iii.; Proceedings of the Academy of Natural Sciences of Philadelphia, 1890. Pt. 1, Jan. and Feb.; Indian Meteorological Memoirs, X., 1, 2, 3, 4.

The Rev. Mr Andson, Librarian, reported that Dr Chinnock had presented to the Society a portrait of the late Joseph Thomson, the African traveller, which was accepted with thanks.

Mr James Barbour presented to the society his "Excavations of the Camps and Earthworks of Birrenswark," for which he was thanked.

SECRETARY'S REPORT.

The Secretary (Dr J. Maxwell Ross) then read his annual report as follows:—

During the session there had been four deaths and nine resignations among members. Nine new names had been added to the roll, which now contained 15 honorary, 14 life, and 184 ordinary members. The number of ordinary members had been reduced by the death of Dr Macdonald, the distinguished authority on Roman Remains in Scotland. Dr Macdonald was a well-known classical scholar, a great educationalist, and a painstaking archæologist. Some of their members were his pupils at Ayr, others assisted him in Kelvingrove, and they had as a society benefited by his work at Birren and elsewhere. Six monthly and two field meetings were held during the year. At the former ten papers were submitted and several exhibits shown. The field meetings were to Balmaghie and Glenlochar to view the supposed site of an ancient Abbey, and to the Lochrutton waterworks and crannog.

In the latter excursion the members had the advantage of the presence of Dr Munro, who gave it as his opinion that the crannog was well worthy of investigation, and that excavations should be made in it. Mr Murray, one of their vice-presidents, had consented to collect subscriptions to defray the expenses of these excavations.

TREASURER'S REPORT.

The Treasurer (Mr J. A. Moodie) read his annual report from 1st October, 1899, to 30th September, 1900:—

CHARGE.

Subscriptions from 139 Members at 5s each	.	...	...	£34 15 0
Do. „ 9 „ 2s 6d each	...	...	...	1 2 6
				<hr/>
				£35 17 6
Entrance Fees from 9 New Members	.	...	...	1 2 6
Arrears of Subscriptions paid	...	...	...	2 5 0
Subscription paid in advance	..	...	...	0 5 0
Copies of Transactions sold	...	...	...	0 12 6
Interest on Bank Account	...	...	...	0 3 0
Balance due to Treasurer	...	...	...	£3 1 11
Less Balance in Savings Bank	...	...	...	0 15 6
				<hr/>
				2 6 5
				<hr/>
				£42 11 11

DISCHARGE.

Balance due Treasurer at close of last Account	...	...	...	£8 19 11
Less Balance in Savings Bank	...	...	...	0 12 6
				<hr/>
				£8 7 5
Paid Salary of Keeper of Rooms and additional Allowance for Heating Rooms during Winter Months	...	...	...	2 15 6
Paid for Stationery, Printing, &c.	...	..	...	2 3 6
Paid for Periodicals and Books	...	...	...	3 5 8
Paid for Coals and Gas	..	...	...	0 15 0
Paid Fire Insurance Premium, less bonus	...	..	...	0 1 2
Paid for Repairs	..	...	...	0 7 6
Paid Expenses of calling Meetings:—				
Post Cards	...	...	...	£4 5 0
Addressing same	...	...	...	1 0 0
Printing same	...	...	...	0 18 0
				<hr/>
				6 3 0
				<hr/>
Carry forward	...	...	...	£15 18 11

	Brought forward	£15 18 11
Paid Expenses of publishing Transactions for last year as follows:—		
“Dumfries Standard” for Printing ...	£15 12 0	
Postage of Transactions	1 8 6	
Delivery of Do.	0 3 6	
	<hr/>	17 4 0
Paid Secretary’s Postages and Outlays		0 7 6
Paid Treasurer’s Do. Do.		0 16 1
Miscellaneous Payments		0 5 7
		<hr/>
		£42 11 11

Statement as to the cost of publication of “Birrens and its Antiquities” for year ending 29th September, 1900.

Balance due to the Treasurer as at 30th September, 1899 ...	£11 0 10
Less 2 Copies sold at 3s each, 6s	0 6 0
	<hr/>
Balance due Treasurer	£10 14 10

ELECTION OF OFFICE-BEARERS.

Hon. President—Right Hon. Sir HERBERT MAXWELL, Bart., M.P.

Vice-Presidents—Rev. JOHN CAIRNS, Mr ROBERT MURRAY, Mr JAMES BARBOUR, and Provost GLOVER.

Joint Hon. Secretaries—J. MAXWELL ROSS and BERTRAM M’GOWAN.

Treasurer—J. A. MOODIE.

Curators of Library and Museum—Messrs ANDSON and LENNOX.

Curators of Herbarium—Professor SCOTT-ELLIOT, Misses HANNAY and Miss CRESSWELL.

Council—Messrs JAMES CLARK; JAMES DAVIDSON MAXWELL, Terregles Bank; STARKE, Troqueer Holm; W. MURRAY of Murraythwaite; Dr CLARK, Miss HANNAY, and Miss CRESSWELL.

Mr Robert Murray reported that he had collected a sum of £26 for the purpose of carrying on excavations at the Crannog at Lochrutton and for other smaller work.

16th November, 1900.

Mr JAMES BARBOUR in the chair.

New Member.—Mr John S. Stobie, Upholsterer, Dumfries.

Donations and Exchanges.—Transactions and Proceedings of the Botanical Society of Edinburgh, Vol. xxi., Pt. iv. ; Annals of the Andersonian Naturalists' Society, Vol. ii.

COMMUNICATIONS.

I.—*The Parish of Luce (Hoddom).* By Mr GEORGE IRVING, Corbridge-on-Tyne.

There is very little now to be seen of Luce except a few fragments. It was formerly a parish, and a church was founded here by St. Kentigern in the sixth century. The ancient parish of Luce, now part of Hoddom, seems to have been bounded by Annan Water on the west, by Mein Water on the north-west, until it joined Pennersax, opposite Newbiggen, then it struck south to the Brownmuir through the wood by the existing march fence until it meets the Bonshaw estate, then following the boundary of the Bonshaw estate down Butcherbeck Burn to Annan Water, near Cleughheads. The area of the parish was about 1200 acres. Little is now known about its ecclesiastical history. In Laing's Charters, under date 16th December, 1559, it is mentioned that Andrew Layng, rector of Hoddom, and Johannes Layng, rector de Luss, were witnesses to the confirmation of a charter by Gavin Hamilton, commendator of Kilinning, to Adam Montgomery.

The vale of Hoddom as seen from Luce old churchyard, about 120 feet above sea level, is rich and beautiful. Nature seems to have been in a lavish mood when it was made. No wonder St. Kentigern pitched his little Mission Church here. Looking northwards you see Annan Water debouching through the gorge opposite Hallyards and flowing past the site of the old parish church, and rolling its dark waters past the base of Repentance Hill and Woodcockair, and absorbing Mein Water as it rolls on its way round the rocky point at Luce and on past Bridekirk on its way to the Solway Firth. Two miles away is Hoddom Castle with its turrets, and on the left the near horizon stretches over the gentle elevation called Barrhill, well known to lovers of the leish. The Caledonian Railway creeps serpent-like round its base, separating from Barrhill the ridge over Cowdews, Haregills, Douglas Hall, and Birrenswark.

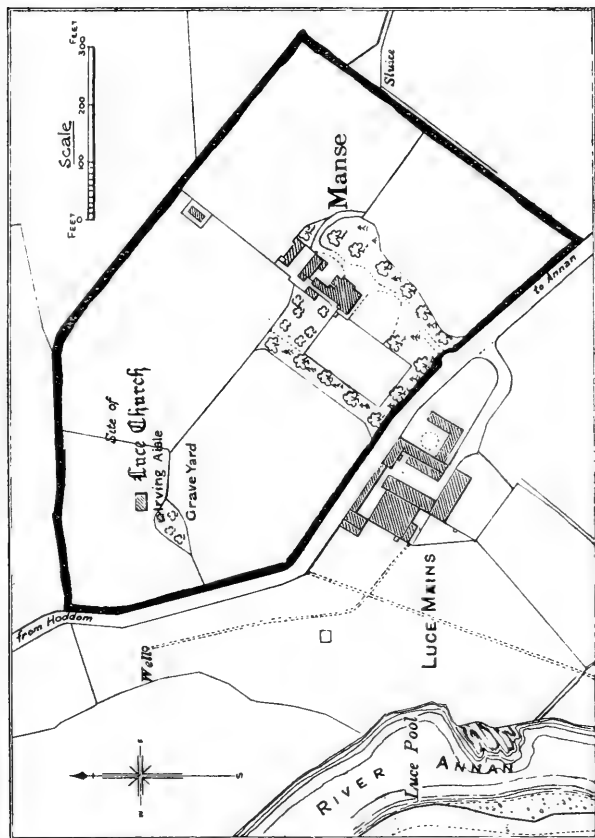
On the north-east is seen Ecclefechan nestling between

the Clint Hill and the Trumpet Knowes on the south-east. The Brownmuir closes in the fertile vale, which is sheltered from "a' the airts the wind can blaw." The three churches as seen from Luce form the points of a triangle. Ecclefechan old church is 2400 yards from Luce, Luce 2220 yards from old Hoddom, and old Hoddom from Ecclefechan 3500 yards. Immediately in front, a mile and a half distant, stands Knockhill, on a gentle elevation overlooking the vale of Hoddom and away down the course of the Annan to the Solway. The greater part of the old churchyard, including the site of the old church, has been ploughed for fifty or sixty years. There is a small corner fenced off (round the Irving tomb) into which a number of old tombstones have been dragged and thrown about in a very disorderly fashion. The foundations of the old church as traced by Mr Kennedy, farmer in Luce Mains, when ploughing the field, shews the church to have been about 30 feet long, by 15 feet wide, and the west end about 50 feet from the east end of the Irving tomb. The site is indicated by a X on the 6 inch ordnance survey. After the Reformation the parish of Luce, Hoddom, and Ecclefechan were united into the present parish of Hoddom in 1609. The parish manse stands on the glebe. In the valuation of 1667 Luce is described as

			MKS.	S.	D.
The fourtie shilling land of Newpark	...	...	140	0	0
The six merkland of Luce	...	...	150	0	0
The lands of Luce pertaining to Jaffray Irving	...	...	120	0	0
Kelheads rent received from Adam Carlile	...	...	40	0	0
The rest of Kelheads lands in Luce	...	...	82	0	0

In the early part of the sixteenth century the lands of Luce belonged to Lord Carlyle, and was sold to Jeffray Irving, who purchased the Three Merkland of Luce from Lord Carlyle, anno . . . and a charter of the lands was granted by Michael Lord Carlyle in 1542. These lands were part of the lands now belonging to Alexander Pearson, Esq. The Carlyles have left no records behind them except a few tombstones in the old churchyard to the memory of some of their descendants in the 18th century. In 1823 there was a John Carlyle who was the owner of one-eighth of Dornocktown, who appears to have been a descendant of the Carlyles of Luce. "On 13th July, 1612, charter

“ by Dame Elizabeth Lady of Carlile granting to James Johnstone
 “ of Wastraw the Five Merk Lands of Stank, in the parish of
 “ Dornock, Stewartry of Annandale, and Shire of Dumfries. To



“ be held feu farm for 13s 4d yearly. Witnesses—James John-
 “ stone of Beirholme and William Irvine of Kirkconnell, Gavin
 “ Blair, writer in Edinburgh, and others. Signed ‘ Elizabeth, Lady
 “ Cairlel.’” There is one large tombstone known as the Carlyle

tombstone lying flat on the ground, with an inscription in large capital letters about $2\frac{1}{2}$ inches long in relief.

Here lyes Ane Honest Gentleman called Adam Carlel of Milnflat, who died May 18, 1681. His age was 96. The youngest may die, but the aged must sooner or later. Dust returns to Dust."

IN MEMENTO MORI.

"Milnflat" is the adjoining farm now known as Meinbank. The above Adam Carlel was in 1667 paying Douglas of Dornock 40 merks per annum as rent of land in Luce. One of the tombstones records that

Here lyes James Carlyle in Dornock, who died 31 day of March, 1732, aged 86 years, and Jean Carlyle, daughter to Robert Carlyle in Foulisyke, who died ye 5 of May, 1746, aged 22 years. Here lyes Robert Carlyle in Dornock, who died April 10, 1768, aged 78 years; also Jannet Bell, his spouse, who died Feb. 4, 1779, aged 77 years.

Another stone records that

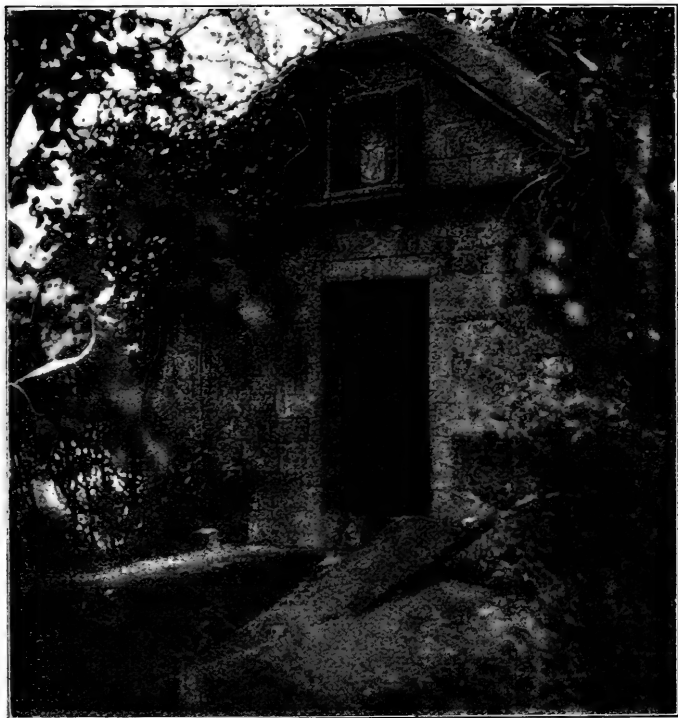
Here lyes Jannet Little, spouse of James Carlyle in Dornock, who died 25 Jan., 1729, aged 69 years, and John Carlyle, son of the sd James Carlyle, who died 20 Feb., 1763, aged 65 years, and James Carlyle, son to the said James Carlyle, who died 4 June, 1706, aged 20 years, and Janet Carlyle, daughter to the said James Carlyle, who died 24 Oct., 1713, and Nicholas Carlyle, another daughter, who died 26 Nov., 1752.

(Here there is a shield in the form of a heart.) The initials on the shield are those of James Carlyle and Jannet Little. Then follows:

Here lyes Bridget Bell, spouse to the above John Carlyle, who died 16 July, 1784, aged 76 years.

The Carlyles of Luce and Bridekirk were ancestors of Thomas Carlyle. The Irvings succeeded the Carlyles as owners of Luce early in the 16th century. There is an aisle or tomb standing in the churchyard with a door in the west end. The east end is semicircular. Over the doorway is a shield and scroll, with the motto "HAUD ULLIS LABENTIA VENTIS" surmounting a shield with three holly leaves, with the date 1700. In the scroll on the left-hand corner is the letter Z, and at the opposite end of the scroll is the letter U. Inside there is an ancient grave cover to the memory of Jeffra Irwing. It is 5 ft. 9 in. long, 18 in. at the head, and 15 in. broad at the foot. It has a plain surface, and round the bevelled edge is the following inscription in large capital letters, in relief, date 1649:

Here lyes Ane Honest Gentleman, called Jefra Irwing, of Luce, who died 18 March, 1649, aged 60.



Jeffray Irwing's Tomb.

The above is to the memory of the grandson of the first Jefra of Luce. There is built into the semi-circular gable in the inside a tablet about 3 feet square, bearing the following inscription:—

To the memory of Jeffray Irwing, who purchased the Three Merkland of Luce from Lord Carlyle, anno And John Irwing, his son, and Jaffray Irwing, his grandson, who obtained a Charter of the sd lands from Michael Lord Carlyle, anno 1542. As also John Irwing, his son, and Jaffray Irwing, his son, who died 18 March, 1649, ag'd 60 years. And

William Irving, his son, who died 9 Feb., 1719, aged 96 years, and John Irving, his son, who died 21 April, 1734, aged 65 years.

TRANSIT GLORIA MUNDI,

Jaffray Irving in 1547 was returned as able to bring 93 men into the field. See Bishop Nicholson's *Legis Marchiarum* List of Clans who submitted and gave pledges to Lord Wharton that they would serve the King of England 1567, but this number might include Woodhouse. There is another tombstone which records that

Here lyes John Irving, who lived in Broachhead 72 years, and died there the 12 of Februy, 1619, aged 104 years, lawful son of David Irving was lawful son to the Laird of Wisbie, and John Irving, his grandchild, who died 16 March, 1695, aged 32, son of William Irving in Broachhead (Broachhead now forms part of Luce Mains).

In 1611, in the Register of the Privy Council in Edinburgh, among other border records "David Irving, callit of Wisbie, was described as man to Jock of Luce." It is also recorded in 1625 that Jaffray Irving becomes cautioner in 500 merks for David Irving in Middleshaw. Another stone

In memory of Gavin Irving, son of William Irving, in Broachhead, who died at Blackitlees March 21, aged 70 years, and Jean Ferguson, his spouse, who died at Warmanbie, June 12, 1782, aged 82 years.

Blackitlees is a farm on the west side of the River Annan, was owned by Irving of Cove in 1711, and feued to George Irving in life rent and William Irving, his son. Mr Irving, minister of Newabbey, was proprietor of Blackitlees about 1752. In 1770 Blackitlees was the property of Dr Wm. Irving, evidently the Wm. Irving above referred to.

The Irvings of Luce seem to have shared the bad luck of many of their clan, and were obliged to part with their estate early in the 18th century to Douglas of Dornock. In the old valuation of 1667 Douglas of Kelhead received 40 merks per annum as rent from Adam Carlile, and had other lands in Luce valued at 82 merks. James Douglas the elder and Archibald Douglas the younger of Dornock, in the early part of the 18th century, were very large landowners in Dornock, Hoddom, and St. Mungo. In 1718 Douglas acquired several farms in Hoddom from Wm. Irving of Kirkeconnell, in addition to what he had in

Luce. In 1768 Archibald Douglas sold his Hoddom and other estates by roup, viz. :—

Lots First and Second. Bodesbeck, Castlemilk, Castlemilkhill, Castlemilktown, Shawhead, and Broatshaw, Middleshaw, Brocklerigg, Blackford, Kettleholm, Greatwath, Cleughaide, Eskdalrig, Breckonhillhass, Kirkbank, Douglashall, Park at Douglashall, and Brettonwalls, for	£5599	16	10 $\frac{1}{2}$
Thirdly. Feu duties of Gibsonstown, Cowestone, Sorrysyke, Howcleugh, Bankside, Northcroft, Ettrickholme, Highlaw, Strands, Mellantachead, Holmfoot, and Skellyholm	2079	16	0
Fourthly. Woolcoats, Relief, and Byerstoun, Axle-treewell, Burnswarkhill, Westgill Miln and Park at Burnswark, with the Pertinents	1988	4	4
Fifthly. The Feu Duties of Upper Cleughbrae ...	432	0	0
Sixthly. One eighth-part of the Town of Dornock remaining unfenced, Foulisyke, Butterdales, for	1073	18	5
Seventhly. The Feu Duties of seven eighth-parts of Dornock at	895	7	6
Lastly. The Fishings on the Solway Firth belonging to the estate of Dornock	540	0	0

Conditions attached. “That the purchaser of the Fishings shall satisfy himself with the Title already produced in the sale, and in case of eviction shall have no recourse against the said Archibald Douglas the common debtor or the creditors who receive the price.” The word “creditors” in the above conditions reveal the cause of the sale. Luce was not offered for sale at the Roup. In 1768 Archibald Douglas of Dornock was stented for repairing the Manse at Hoddom £17 16s 3d. Luce passed from Douglas to General Dirom in or about the year 1795.

In the garden in front of the Farm House at Luce Mains there is a stone with the Douglas arms carved in bold relief representing the flying heart surmounted by a coronet, with the motto “FORWARD” in Roman capitals—date 1778. The stone is 2 ft. 4 in. high, 10 in. broad at the foot, and 16 $\frac{1}{2}$ in. at the top, with a margin of 3 in. all round. It has evidently been made for the keystone of an arch. Tradition says it was cut by “Old Mortality.” This may be, as Robert Paterson was related to the then tenant of

Luce Mains. It used to be fixed in the gable of the old barn, and when the barn was pulled down it was removed into the garden for safety. These interesting relics are all I could find relating to the Douglas.



Douglas Arms, Luce.

At the farm of New Orchard there is a stone tablet built into the garden wall about 4 feet high by 3 feet broad. At the top cut in a scroll is the date 1772 and the word "sicker" in capital Roman letters, each about $1\frac{1}{2}$ in. long. There is an inscription at the foot of the tablet as under: "Archibald Douglas, Esquire of Morton, erected this stone 1784." On the door lintel entering the garden there is an older stone with the following initials and date: "I I E 1672." The length of the stone is 3 ft. 9 in., 6 in. deep, and 13 in. broad. It has evidently been part of some older

buildings. In the centre is a small shield about $8\frac{1}{2}$ feet broad at the top. On the left half of the shield are three holly leaves cut in relief, and on the right half two diagonal cross bars in relief.



Photo by J. B. Irving, Esq.

Douglas Tablet at New Orchard.

On the sides of the shield is the date 16 on the left and 72 on the right. Near the end of the stone on the left, in a small panel, are two letters "I I," and in a corresponding panel on the right is the letter "E." The letters "I I" and the three holly leaves on the shield indicate that it records some of the Irvings who were owners of New Orchard in 1672, but I cannot make out what the letter "E" means. In the Valuation Roll of 1823 Archibald Douglas, advocate, is returned of part of Kirkconnel, called New Orchard, of the annual value of 40 merks.

The Laird of Luce was great grandson of Archibald Douglas

of Dornock, second son of the first Earl of Queensberry, and son of the last Laird of Dornock by a daughter of Sir James Johnstone of Westerhall. His father sold the estates of Dornock to the Duke of Queensberry, but bought Castlemilk, which he sold in 1768. He was a madman, and dangerous in his cups. Displeased with a ploughman, he immediately whipt off one of his ears with a gullie which he happened to hold in his hand. Another account is contained in a letter to Matthew Sharpe, Esquire of Hoddom, at Edinburgh :—

“ Dr Sir,—I take the opportunity of the bearer Mr Scot to “ let you know from good authority the most deliberate action I “ ever heard in our country. Young Dornock last Thursday’s “ night in his lady’s room and presence ordered his servant George “ to sit down on his knees and be sure to pray well, for he was to “ be a dead man in a very few minutes, and his lady begged him “ not to shoot the innocent lad but rather shoot her than anybody “ else. He fired a loadin pistol on the lad, missed him, and for “ all that they could do fired a second, which he had in his pocket, “ shot the lad beneath the left arm, run to Pennershaughs, but “ could not get John Carlyle’s beast to run away on, and told him “ he had shot George. A despatch was sent to Doc Maxwell, who “ told them he was not a surgeon, another to Doc ———, who told “ them George was a dead man, a third to William Cranston, “ Dumfries, who dressed his wounds, and is in hopes of his re- “ covery. I am, sir, your most humble servant, William Irving.”

They say the cause was jealousy, and George passed for dead all Friday. His son is described as a “ truculent faced squinting “ fellow who was perpetually drunk and armed with pistols, which “ he made very little ceremony of discharging. His cousin Sir “ William Maxwell never dared to pass the door of his house. He “ actually shot one Little, a farmer of his own, and was tried for “ the murder at Dumfries ; but by the help of money and abund- “ ance of perjury he was brought in insane and confined at Dum- “ fries till his death. When drunk he was certainly mad, but not “ otherwise. He died during the first decade of this century.” So wrote C. K. Sharpe to Walter Scott, Esq., in 1812.

Little’s tombstone is in Hoddom churchyard, and has the following inscription :—

In memory of Archibald Little in Park, victim to the malice of Wm. Douglas, late proprietor of Luce, who, having threatened to murder him,

actually perpetrated the same at Luce without any provocation by shooting him with a pistol on the morning of Friday, the 24 July, 1795. He was aged 35 years 3 months and 11 days. His corporeal remains were deposited here on the 27th of the above month.

So ends the tragic connection of the last Douglas of Dornock with Luce.

II.—*The Vertebrates of Solway—A Century's Changes.*

By Mr ROBERT SERVICE.

Looking over the records of the century that has just passed away, the naturalist will find that the changes that have taken place amongst the members of our indigenous fauna are numerous and interesting. Some species have gone altogether, and we shall know them no more as local inhabitants. Many have sadly diminished from former abundance. Others, again, have risen enormously in numbers, and a few, quite unknown here when the century began, have arrived in our district and assumed a foremost place in the attention of the student of these important inter-faunal relations.

The great agricultural progress made during the century has had much effect on our native species. With the extensive drainage that has taken place, and reclamation of bog and moss, the wild fowl have been dispossessed of their chosen haunts. The numbers of several species of wading birds have become more and more restricted.

The re-afforesting that took place to such a wide extent in the earlier years of the century provided homes and shelter for such species as the Roedeer and the Squirrel. The hedge enclosures, with rows, belts, and clumps of ornamental or "wind breaking" trees, have greatly encouraged the propagation of small passerine birds.

Arable land has gone out of fashion in a marked degree, and pastoral cultivation is taking its place, to the advantage of such species as the Starling. On the rougher and hill portions of the country, Black Cattle have long since been replaced by sheep. One consequence is that heather is slowly dying out. No heather patches ever extend now, and plenty of it has disappeared altogether.

Many members of our fauna have suffered severely from game preserving. Since early in the 20's the passion for this form

of sport has gone on increasing. A more discriminating method of keeping down the enemies of game is now in the ascendant, under which Buzzards, Kestrels, Owls, and others ought to receive the total exemption from ruthless slaughter to which they are entitled. From the naturalist's point of view there was a compensating advantage in even the merciless old system of game preserving. It resulted in a maximum stock of small birds, which in their haunts on the mosses, woods, and coverts enjoyed almost complete immunity from raptorial birds, and an undisturbed quiet during the nesting season.

I am bound to note the agreeable fact that public opinion favours the preservation of all the members of our fauna, and does not regard the Acts passed in recent years for the protection of birds, their eggs, and young, as in any way irksome. The healthy opinion prevails that the enactment in question to maintain the feathered tribes is one to be respected not only by all lovers of wild life, but by the community as a whole.

"Introductions" have not been without considerable mark. The Rabbit, the Varying Hare, the Pheasant, and the Grayling are introduced species, and it is perhaps quite unnecessary to observe that all of them are here to stay.

Probably some of the changes noted, such as the lessening numbers of the Martin and the Barn Owl, the arrival of the Pied Flycatcher and the Stock Dove, as well as the change involved in the abundance in which the Tufted Duck now remains in summer, may be attributed to some slow and obscure alteration in climate. No evidence, however, can be adduced from meteorological records that any such change is in progress.

I ought to mention the changes that have taken place in regard to the principal vertebrate of all—man himself. A wonderful change has taken place in Solway and elsewhere within the century. Go where you will you will see roofless and ruined cottages dotted over the country. In some villages half the houses are roofless and ruined; and the groups of Ash-trees or a few Rowans—perhaps the free growth of a bed of nettles, or the greener verdure of a grass mound—sufficiently attest to the observer the sites of homesteads that have otherwise completely disappeared. Some may look on such a change as merely one of social economy. Whatever may be the deeper reason, the one on the surface is easily seen. The people have left and are

leaving the land to reside in towns merely because employment, and therefore food, are more easily obtained there. In this respect man is almost on the same level as the beasts of the field and the fowls of the air.

By the term "vertebrates" it is, perhaps, quite unnecessary to explain that the back-boned animals are meant. These, of course, comprise the mammalia, the birds, the reptiles, and the fishes. "Solway" is one of the faunal districts into which the late Dr Buchanan White divided Scotland. These divisions are in all cases based on the watershed (so far as the mainland is concerned), and in practice are very convenient, and they are accepted and used by all working Scottish zoologists. I have said that Dr Buchanan White, in arranging these faunal areas, "divided Scotland," but, as a matter of fact, he was compelled by watershed considerations as he went along the Borders to appropriate rather considerable slices from Cumberland and Northumberland. In doing so, Dr Buchanan White shewed conclusively that nature had not erred. The mistake of supposing that Cumberland and Northumberland lay altogether in England has arisen simply through political exigencies. It will serve our present purpose best to consider "Solway" roughly as all the country that lies betwixt the Esk and Lochryan. The large bit of Cumberland and the little bit of Ayrshire that properly belong to "Solway" may at this time be left out of consideration in discussing our subject.

MAMMALIA.

THE WILD CAT (*Pelis catus*, Linn.).

This fine creature has long been extinct here. In Dumfriesshire few of them survived when the century began. The last record I can find for the county is that of a wild cat shot on the heights of Middlebie, betwixt Wastwater and Cruive, in January, 1813. It must have been an extraordinary large-sized animal, for it is said to have measured 3 feet 9 inches in total length. In the Stewartry wild cats lived only a little longer, one having been killed by a Mr Beck, then farmer in Balmangan, about 1820. Mr John M'Kie, of Anchorlee, Kirkcudbright, told me in a letter written in September, 1880, "that it was related to him when a boy by a native of Borgue, named James M'Taggart, that he saw two foxhounds belonging to Alexander, the county huntsman, so torn by one or more wild cats near the cliffs at Senwick glebe

that they had to be destroyed, and that ever afterwards Alexander avoided the place when hunting." There is a widespread belief amongst British zoologists that there is now no real wild cat left in Great Britain. It has been absorbed by the "predominant partner" the domestic feline. Certainly wild cats with all the typical characters of the species have become of great rarity, even in places such as the deer forests, where these cats are not specially destroyed.

THE WEASEL (*Mustela vulgaris*, Erxl.).

Has become comparatively scarce nowadays. Formerly found in great plenty everywhere.

THE ERMINE (*Mustela erminea*, L.).

This species has become greatly less common within the memory of most persons. During the prevalence of the Vole plague of the years 1888 to 1892, both the Ermine and the Weasel had a considerable amount of tolerance extended to them. The idea was widely expressed by those dependant on pastoral farming that the Vole plague would not have assumed its vast dimensions had there been a natural stock of the two animals under notice. Neither of them is the unmitigated vermin they are so often asserted to be, and it is regrettable that they should be destroyed in the indiscriminating way now in fashion.

THE FOU MART (*Mustela putorius*, L.).

The Fou mart was very common during the first half of the century. It then quite abruptly decreased to great scarcity. Although perhaps not quite extinct yet, the odd stragglers that now and again are reported at intervals of several years may be immigrants from outside our area. More probably they are only very dark-coloured Ferrets that have escaped from their owners. Rabbit-trapping is accountable for the disappearance of the Fou mart. At the old fur markets that used to be held in Dumfries during the Candlemas Fair the skins of these animals brought good prices. In 1857 it was as high as 45s per dozen. As many as 600 skins were exposed, as happened at the fair of 1831.

THE BADGER (*Meles taxus*, L.).

This is another animal whose status has gone down to the

verge of extinction. While never really common, it was well known and of general distribution. For the last half century its existence has been precarious. There have been several introductions on well-known estates, and this has helped to maintain the Badger as a local animal. Although the general opinion is that the last of the native Badgers met their fate about 1860, there is a reasonable belief that all along the old indigenous breed has had a survivor here and there. "Dumfries Badgers," which, however, were nearly all procured in the Stewartry, were at one time in great demand by our southern neighbours, and were reckoned the gamest that could be obtained anywhere.

THE COMMON SEAL (*Phoca vitulina*, Linn.).

There is every reason to believe that the Common Seal does not visit our waters with the regularity that was formerly the case. Up till the last ten or twelve years a few stragglers of the herd that annually migrates in late autumn along the western shores of Scotland reached the Galloway coast, and from the middle, or end, of October till March, Seals used to be observed, and occasionally captured, almost every season. For a good many years past Seals have become much more infrequent.

THE RED DEER (*Cervus elaphas*, Linn.).

"The range of the Red Deer, formerly extending over all our province and much farther south, is now far to the northward." So said Sir William Jardine in an address delivered here in 1860. According to the writer of the "Statistical Account" of Moffat parish, "the last hart was killed there in 1754, having been long single." The range betwixt Dumfriesshire and Lanarkshire was, as may easily be supposed, a famous place for deer. In the ballad of "John of Breadislee" we read that the redoubtable borderer

. . . has gone to Durisdeer
To hunt the dun deer down.

A stag was killed at Eaglesfield, in Dumfriesshire, on 25th October, 1815, a Mr Clark, of Broughton, having been gored and killed by it. It had been hunted from Dalemairn, near Penrith, through Carlisle and Cockermouth and far across the borders. In Symson's "Galloway" (1684) there are some references to the presence of "very large red deer" about the "remote parts of that great

mountain" (Merrick). I bought at a book sale one day a work in two vols., entitled "The Natural History of Quadrupeds and Cetaceous Animals," published at Bungay, in Suffolk, in 1811. The work is profusely illustrated with coloured plates, but is a mere compilation, and its only value is its extreme scarcity. I find an allusion therein (vol. ii., p. 209) to the Galloway deer, which is of interest. "So late as in the beginning of the last century (1700) there were Red Deer scattered over the hills of Galloway. But by the eagerness with which the peasants pursued them they have been long since exterminated from that district." A remnant must have been left, for, according to the "New Statistical Account," Kells parish, February, 1844, "deer were occasionally seen in the remembrance of some old people."

THE FALLOW DEER (*Cervus dama*, Linn.).

The "New Statistical Account" records in the notes to the parish of Johnstone that in 1780 James, Earl of Hopetoun, brought a dozen of Fallow Deer to Raehills, where they were placed in an enclosure, but subsequently broke out and were never confined again. They gave rise to a numerous herd that roamed at large in Upper Annandale, and in 1844 it was computed that they numbered upwards of 200. Orders to destroy them were issued, and although more than 50 were killed within a week their utter destruction was not accomplished before the orders were recalled. It is believed that possibly a few descendants are still at large, but as these may be confused with individuals recently escaped from the parks, there can be no certainty.

THE ROE DEER (*Capreolus Capræa*, Gray.).

I have been unable to ascertain with any certainty the date when this species became extinct in Solway. Probably it was not found here at any time during the 18th century. In the early part of the present century, when the great increase in plantations took place, suitable haunts for this woodland deer were offered, of which it took advantage when sufficient advance in their growth had taken place.

The return of the Roe to Annandale was put down by Sir William Jardine as shortly after 1854, but there is every probability that it was a few years earlier, for the writer of the account of the parish of Johnstone, in the N.S.A., states that "within

these last three years a few Roe Deer have been discovered." An introduction on the Drumlanrig estates about 1860 helped to stock Nithsdale, and within a few years thereafter the Roe was quite common. By 1870 it had spread widely over Galloway, and is now everywhere numerous in suitable haunts.

WILD WHITE CATTLE (*Bos taurus*, L.).

The Drumlanrig herd were disposed of about 1780. A small herd were kept in Cally deer park. I have not been able to glean any precise information of the number of cattle that formed this herd. It appears that they were originally procured from the old historic herd belonging to the Duke of Hamilton, kept in Cadzow parks. They were all sold in 1846, after the death of Alexander Murray of Broughton.

THE SQUIRREL (*Sciurus vulgaris*, Linn.).

So generally distributed, and so common is this lively and pretty creature, that it is of special interest to find that the Squirrel is a very recent immigrant into Solway. When they became extinct here in olden days we have no precise knowledge. They reappeared in Dumfriesshire (Upper Eskdale) in 1837, or perhaps a year or two earlier, but it would be fully ten years later before they became quite common and began to spread westwards. They crossed the Nith about 1860, and soon became generally dispersed, reaching the Cree about 1873. That river appears to have been an obstacle not easily negotiated, as some seven or eight years elapsed before the Squirrels got across. Early in the '80's, however, they became general in Wigtown, and at the present day abound in many localities in that county.

THE BLACK RAT (*Mus rattus*, L.).

Has in all probability now become quite extinct as a local species. I have not seen or heard of it for a dozen years past. From time to time "Black" Rats are reported, but these invariably prove to be the fine black variety of the Water Vole, or, more seldom, the melanic variation of the species that comes next on my list.

THE BROWN RAT (*Mus decumanus*, Pall.).

Vastly more common everywhere than it has ever been before. I have a strong impression, induced by a long series of

notes and facts of observation, that the Brown Rat now betakes itself to the fields and open country, away from dwelling-places, far more readily than was formerly the case. Along the shore line, too, there are large and increasing numbers to be found where at one time few, or none, were to be seen. On quiet evenings one has only to remain in hiding for a few minutes to see the Rats come out from under the rocks to feed upon mollusks and the rejectamenta of the tide.

THE COMMON HARE (*Lepus Europæus*, Pallas.).

In these days the Common Hare only manages to hold its own on estates sufficiently large to allow of efficient protection. How abundant the hares were before the passing of the Ground Game Act is a matter of common knowledge. At the Dumfries fur markets before alluded to hare skins were the staple commodity. Seldom less than 10,000 skins were sold, and in the later years during which the market existed 65,000 to 70,000 were sometimes disposed of. It is stated that so recently as 1874 no fewer than 180,000 hare skins passed through the hands of the Dumfries dealers.

THE MOUNTAIN HARE (*Lepus timidus*, Linn.).

The White Hare now frequents all our hills of 1000 feet and upwards, and very many of those of lower altitude, and a specimen has been shot so low down as the hill above Dalscairith. It was unknown in Dumfriesshire previous to so comparatively recent a date as the winter of 1863, when it was first noticed on the Moffat, Evan Water, Leadhills, and other ranges leading into Peebles and Selkirkshire. It was understood at the time that these Hares were the produce of some that had been turned down at Glenbuck by a Mr Hunter about 1861. But in a deeply interesting work, entitled "The Mammalia of the Edinburgh District," published in 1892, my friend Mr William Evans, the author of the book cited, shews that there were at least two other introductions to which, together with those set loose at Glenbuck, we are indebted for the present stock of Mountain Hares which are so widely and abundantly distributed over the southern uplands. Mr Clason of Hallyards procured a number of Blue Hares from the north, and set them free on the top of the highest hills in the parish of Manor, in Peebleshire, in 1845 or 1846.

There was also another introduction on the Silverburn hills, the highest of the Pentlands, somewhere about the beginning of the '60's.

Spreading rapidly from the district around Queensberry, through the head of the Annandale watershed, the Varying Hare arrived in Eskdale in some numbers by 1868. It was about 1872 before it made its appearance westwards on the Galloway uplands. It is now widely distributed on all the hills of Solway.

THE RABBIT (*Lepus cuniculus*, Linn.).

When the century was young Rabbits were scarce enough, In the Rev. Samuel Smith's "Report on the Agriculture of Galloway," of date 1810 (a book that is now very scarce, and for a sight of which I am indebted to Mr Thomas Fraser, Dalbeattie), it is stated (p. 298) that "there are a few rabbits in one or two places in the Stewartry. . . . There is an extensive Rabbit warren in the sandy district near Glenluce." When Dr Singer wrote his "Agricultural Survey of Dumfriesshire" in 1812 he remarked (p. 384) that "a few Rabbits are to be found, but hardly worth mentioning. There is no regular warren." I have it from a trustworthy source that John James Hope Johnstone, M.P., brought one pair of Wild Rabbits from the South of England and set them at large some time about 1815, and that the descendants of this pair were popularly supposed to have populated the most of Annandale. Some time subsequent to 1825 the fox-hunting interest introduced Rabbits largely throughout both Dumfriesshire and the Stewartry (there were foxhounds kept in the Stewartry then), and ever since that time they have been plentiful enough. There is no mention of the number of Rabbit skins in our fur market reports until 1828, when 18,000 were exposed, and fetched 4s 6d per dozen. In 1816 they were sold here for 8s to 9s per dozen—a very direct evidence of scarcity.

AVES.

THE MISSEL THRUSH (*Turdus viscivorus*, L.).

Some fifty years ago was very uncommon. Now it is one of our familiar species.

THE COAL TIT (*Parus britannicus*, Sharpe and Dresser).

"This little species we think to be the most abundant, or one

which, in winter at least, is seen in greater profusion in the South of Scotland than any of the rest of the tribe. Ten or twelve years since (say 1834 or 1832) it was by no means common, and its frequency now may be accounted for by the increasing age of the plantations and by the immense quantity of wood which has been lately planted and which is now advancing to maturity." So wrote Sir William Jardine when he issued his "History of British Birds" in 1844. Nowadays, and for many years past, Coal Tits, though common enough, cannot be considered "the most abundant of the tribe," they being exceeded in this respect by both the Blue Tit and the Great Tit.

THE MARSH TIT (*Parus palustris*, L.).

Was considered by Sir William Jardine to be not uncommon in Dumfriesshire about 1840. The reverse is the case now; indeed, until 1888 I had never seen the Marsh Tit near Dumfries. The species seems to be slowly becoming more abundant since the date mentioned, and a pair or two may be noted occasionally. In other parts of Solway it has never been, during my experience, more than very scarce and local.

THE WHITE WAGTAIL (*Motacilla alba*, L.).

Of late years this species has put in a tolerably regular appearance during the vernal migration. It seems to have been first noted here about 1880.

THE PIED FLYCATCHER (*Muscicapa atricapilla*, L.).

Now breeds regularly in several places in both Annandale and Nithsdale. There is a strong presumption that it is also resident in summer on the Stewartry side of the Nith. The Pied Flycatcher is an addition to our breeding birds, as it was found nesting in Solway for the first time in 1882. Previous to that date there was only one record for the species in Solway, so far as I know.

THE MARTIN (*Chelidon urbica*, L.).

The House Martin has shown a lamentable diminution of numbers within the last twenty years. Scores of farmhouses where it used to breed have now not a single pair attached to them. It has been alleged that great numbers of this homely little bird are killed on passage through France and Italy. While that is un-

doubtedly the case, I am rather inclined to think that its increasing scarcity here is caused by some obscure climatic change.

THE GOLDFINCH (*Carduelis elegans*, Steph.).

Owing to bird-catching, and the great improvements in agriculture, whereby fields and wastes covered with thistles and other weeds have been done away with, the Goldfinch has decreased almost to vanishing point. It can never regain its former numbers, but a small remnant may exist if the Wild Birds' Preservation Acts are well enforced.

THE STARLING (*Sturnus vulgaris*, L.).

Within the memory of many persons still living, the Starling was either unknown or very rare. In the earliest years of the century the Starling was disappearing in Solway, and 40 or 50 years elapsed during which it seems to have been only a transient visitant. Then with the next score of years it very rapidly increased till it reached its present abundance everywhere. Details of its interesting history as a local bird need not be given. I have already published many such notes in the "Annals of Scottish Natural History" for 1895.

THE CHOUGH (*Pyrrhocorax graculus*, L.).

With the exception of a pair or two in the west of Wigtownshire, there are no Choughs now in Galloway. Once common, they became very scarce in Kirkcudbrightshire by 1865, and soon thereafter quite disappeared, with the exception of an occasional straggler from the Isle of Man, or Rathlin. Jackdaws have been freely blamed for frightening them away, but there is no evidence that they ever did so.

THE MAGPIE (*Pica rustica*, Scop.).

The Magpie still survives as a local species, and of late years seems actually to be slightly increased in numbers. Formerly very abundant, its decrease is attributable to game-preserving.

THE ROOK (*Trypanocorax frugilegus*, L.).

The Rook is entitled to particular attention in connection with my subject. While greatly diminished from its numbers of half a generation ago, the most interesting thing about the local and

general Rook population is in the remarkable change of habits that happened towards the end of the '70's. Previous to that time they attacked the farmer's growing and harvested crops at the same time that they were destroying untold quantities of grubs and noxious insects. Then came a great change. Eggs of all kinds, young birds, small rodents, young rabbits, chickens, and ducklings were devoured as greedily as ever the Carrion Crow did the same thing. At the same time came a curious structural alteration. The feathers round the base of the bill, which always used to fall off during the young Rook's first summer and winter, were in many cases retained for years. There is no doubt this retention of these feathers was the direct result of the assumption of Carrion Crow habits by the Rooks. So, of course, the gamekeepers were everywhere up in arms against the Rooks, with the usual result. I am not blaming them, for Rooks, with their present propensities, must be bad neighbours to a Pheasant preserve. The cause of such a sudden change to what may be considered ancestral habits, after a most lengthened period during which no charges of that particular kind were ever laid against them, is rather obscure. The best explanation is that of my friend Mr John Harvie Brown—the foremost of Scottish naturalists. He traces it to two causes. The first one is the immense increase of the Starling, depriving the Rooks of their grub and insect food. The other is the practice all over the country of spreading on the fields near the larger towns of so-called scavengers' manure or refuse. Egg shells and garbage of all kinds are amongst the stuff, and the Rooks, compelled to forage amongst it, soon learned a bad lesson. The whole matter is well worth fuller investigation than has yet been given it.

THE BARN OWL (*Strix flammea*, L.).

This is another bird that seems dying out from some unexplained cause. There are very few left now.

THE HEN HARRIER (*Circus cyaneus*, L.).

The Hen Harrier is a bird that probably very few local naturalists have ever seen alive. And yet half-a-century or more ago it existed in hundreds all over the mosses and moors of our area. Game-preserving has sealed its doom, and so also has it that of the

COMMON BUZZARD (*Buteo vulgaris*, Leach),

of which a few pairs only are now left on suitable tracts of country.

THE GOLDEN EAGLE (*Aquila Chrysaetos*, L.).

This Eagle nested in Dumfriesshire up till 1833, and till well after 1850 on some of the Galloway hills.

THE SEA EAGLE (*Haliaetus albicilla*, L.).

The Sea Eagle has been much scarcer everywhere in Britain than the Golden Eagle, not receiving, like its congener, the protection of the deer forests. There were eyries of this species on the Burrow Head and Mull of Galloway at the beginning of the century, and it is said to have been White-tailed Eagles that bred on Loch Skene. I doubt this, and am of opinion that the White-tailed Eagle ceased to nest in Solway considerably earlier than the Golden Eagle did.

THE OSPREY (*Pandion haliaetus*, L.).

The Fishing Eagle, bred in Galloway at, at least, two places, Loch Skerrow and the Glenhead Lochs, till about 1860.

THE TUFTED DUCK (*Fuligula cristata*, Leach).

This bird comes on my list now as a relief from the disagreeable task of recording so many extinct or disappearing species. Always well-known as a winter visitant, the Tufted Duck was first discovered breeding within our area by myself in 1887. Since then it has spread amazingly, and there is scarcely a loch in the three counties but has a pair of them upon its surface in summer.

THE STOCK DOVE (*Columba ænas*, L.).

This species is another very welcome addition to our resident breeding birds that has arrived here quite recently. In 1876 it was found breeding in Southwick. Since then it has spread, not only over Solway, but over the most of Scotland.

THE PHEASANT (*Phasianus colchicus* L.).

According to a statement in the "Old Statistical Account," the Pheasant was introduced to the woods of Eskdale about 1790 by the Duke of Buccleuch. There was an introduction at Jardine-

hall in 1822. John M'Diarmid states in the old "Courier" of date August 9, 1825, that "pheasants are spreading fast over the whole of Galloway, very little to the comfort of the farmers, who complain that a colony of them are as ill to keep as a hirsel of sheep."

THE PTARMIGAN (*Lagopus mutus*, Leach).

The Ptarmigan was still on our hilltops when the century came in. It survived till about 1822. In the "Zoologist" for 1887 I have gone pretty fully into the history of the last survivors, and all particulars may be obtained therein.

THE WOODCOCK (*Scolopax rusticola*, L.).

Nowadays the Woodcock remains, and breeds here, in no scanty numbers. It is the general belief that it did not do so during the first two-thirds of the century. At the same time, some are of opinion that, from insufficient observation, the fact of the Woodcock remaining to breed was overlooked. I have seen an egg of the Woodcock that was taken in Newabbey parish so long ago as 1828.

THE LITTLE GREBE (*Podiceps fluviatilis*, Tunstall).

This is another addition to our breeding residents. It was first noted nesting at Falbae Loch, in Parton, in 1876, and since then it has been noticed in several other localities. When Robert Gray wrote his "Birds of the West of Scotland," he remarked on the curious fact that the Little Grebe had not been known up to that time to breed here.

REPTILIA.

THE ADDER (*Pelias berus*, L.).

Although far from being at all scarce yet, there is no doubt that the Adder has greatly decreased from its former abundance. Drainage and reclamation have destroyed many of its haunts. The late Mr Thomas Wilkin informed me that, when a large portion of his farm of Tinwald Downs was reclaimed from Lochar Moss, a note of the Adders killed during the progress of the work was regularly kept. The average was 40 per acre.

PISCES.

THE COMMON COD (*Gadus morrhua*, L.).

Does not now come up the Solway Firth in the great quan-

titles and huge size that once arrived there in the winter months. Up to 1855 and 1856 their visits were annual, but after that they gradually dwindled away. Now, as a rule, only codlings are caught, and the large, mature fish very seldom indeed.

THE ROACH (*Leuciscus rutilus*, L.).

Within the last half-dozen of years, Roach have been found plentifully in the Cargen water. Probably they originated from an introduction to the Terregles ponds. The species is at best very local in its distribution, and any extension is of considerable note.

THE MINNOW (*Leuciscus phoxinus*, L.).

The Minnow was introduced into Glasserton parish, in Wigtownshire, according to a note by Sir Herbert Maxwell in the *Annals of Scot. Nat. Hist.*, "some years previous" to 1892. It does not exist anywhere else in Galloway west of the Cree.

THE SALMON (*Salmo salar*, L.).

Salmon are enormously less in the Solway rivers than formerly. Both in the rivers and in the estuaries, the early, or spring, fish (should these not rather be termed the "latest" fish of the previous year's run?) are almost of rare occurrence now when compared with a period of half a century ago. I believe firmly that as much salmon reaches the public as ever, but whereas the captures in the rivers have decreased greatly, the salt water catches have gone up correspondingly. The Solway rivers are naturally late waters, and their tendency has been for many years past to become later as time goes on. The process is a slow one. Whether the change is climatic, or is caused by the constant annual taking of the earlier runs, can hardly be said to be decided. Like many other observers, I am of opinion that it is to be attributed to the latter cause.

THE SMELT (*Osmerus eperlanus*, L.).

Hardly known as fresh water fish nowadays in at least the Esk, Annan, Nith, and Urr. They have greatly decreased, also, in the estuaries. I have been favoured by Mr Hugh Kerr, Dalbeattie, with the loan of an old account book kept by his grandfather, when tenant of the Munches fishings in the River Urr. In 1840 no less than 1800 lbs. of "Spirlings" were taken from

these waters. A little practical combination might easily reinstate the Smelt in its former abundance, as witness what has been done in the Cree within a remarkably short period.

THE GRAYLING (*Thymallus vulgaris*, Nilss).

Shaw, of Drumlanrig, put 2000 Grayling ova into a stream in the Drumlanrig policies, leading into the Nith, in the spring of 1857. The following year breeding fish were introduced into the same river by Lord John Scott. Now the species swarms in all suitable localities. A few have been taken in the upper reaches of the Annan, but none in the lower waters. I am unaware when, or by whom, they were introduced there.

THE ANCHOVY (*Engraulis encrasicolus*, L.).

The Anchovy came into the Solway waters in 1889, appearing first in Fleet Bay; the following spring they were captured near Annan, and it was soon ascertained that the whole firth was full of them. Since then their continued presence has been noted. It will be interesting to watch whether the Anchovy remains permanently off our coasts.

THE HERRING (*Clupea harengus*, L.).

Probably never a summer passes during which Herring do not visit our firth. In the early half of the century they were here in such immense shoals as we never hear of now. The public memory is proverbially short, and it has been almost forgotten that so comparatively recently as 1848 the Herring shoal touched the Dumfriesshire shore, and most of the inhabitants of that part of the coast left their usual occupations and engaged in catching and curing, while those fish that had got stranded on the banks were carted away by the farmers for manure. This was more particularly the case in Caerlaverock parish, but at the Brow and Priestside the people were equally busy, and this state of matters lasted from the beginning of September till Hallowe'en. The English trawlers plied their vocation off the Borron Point, and some of them used to sell their catch daily at the Dockfoot. In the several years that succeeded Herrings were nearly as abundant in the firth. 630,000 were taken in a single night in October, 1850, off Maryport, and the fishing culminated in 1852 with the greatest catch of the century. In October and November of that

year the shoal lay in the channel from the Blackshaw to the Lightship on the Cumberland side, and nearly 100 boats were engaged in the fishing. It is a matter of interest that the Herrings are recorded to have spawned that season in local waters. The Maryport boats alone realised upwards of £10,000 from the season's work. The time may again come round when Herring will visit the firth in their old numbers, but they are not likely to do so until the banks and channels get back to the condition they were in half a century ago. That may never happen again, if my idea turns out to be correct, that the Solway firth is silting up at a comparatively rapid rate.

Three more species of fish ought to be mentioned. These are the American Charr, the Black Bass, and the Rainbow Trout. They have been introduced for more than a decade now, and seem to have thriven. Individuals of each of them have been taken at considerable distances from where they were originally put into our waters.

21st December, 1900.

The Rev. WM. ANDSON in the chair.

New Member.—Mr Pearson of Luce, near Annan.

Donations and Exchanges.—North American Fauna, No. 19; Results of a Biological Renaissance of the Yukon River Region; Coleoptera of Reigate, Part III., Staphylinidæ, by John Linnell.

The Secretary submitted certain papers received from a gentleman in Dunscore Parish:—(1) A notice addressed to James Grierson, Esq., Dalgonar, intimating that on account of the cholera in Dumfries (1832) business for the Michaelmas Head Court would be postponed. The notice was covered with MSS. jottings regarding wonders, freaks, &c., and among others was a note of the prolificity of a Russian peasant, from the Scots Magazine, 1755, which corresponded with a similar account of Russian prolificity published in the "Lancet" in 1857, and in Gould and Pyle's Anomalies of Medicine; (2) A letter regarding the second

incoffining in 1817 of Lady Betty, daughter of Hugh, Earl of Lowden (? Loudoun), her death having occurred in 1771; (3) Two old hotel bills from Carlisle and Ramsey; (4) Lines said to be by Burns on the death of Paine; (5) Newspaper notice of death of Mrs Mary Ann Lowden (aet. 83) at Stank of Bankend, endorsed "last surviving sister of Paul Jones;" (6) A ticket for Leith stage coach.

Communication.—The Secretary read a paper by Dr Chinnock, London, on Ptolemy's Ireland, for which Dr Chinnock was accorded a hearty vote of thanks.

Mr Service, seconded by Mr Thomson, moved "That the Society consider the advisability, in conjunction with other kindred societies, of asking the Government to issue a Commission to prepare and publish a third Statistical Account of all the Scottish Parishes." This was, after discussion, unanimously agreed to, and a Committee, consisting of Messrs Service, Thomson, Barbour, Ballantyne, Moodie, Dr Ross, and Mr B. McGowan, was appointed to take any steps that might be considered necessary.

18th January, 1901.

Mr Robert Murray, V.P., in the chair.

New Members.—Colonel Beaufin Irving of Bonshaw; Mr Andrew C. Penman, Coachbuilder, Dumfries.

Donations and Exchanges.—Proceedings Berwickshire Naturalists' Club, XVII., Part I.; the Session Book of Bunkle and Preston, 1665-1690; Transactions of the New York Academy of Sciences, Vol. XII., Parts II. and III.

Exhibits.—Mr Arnott, Carsethorn, exhibited four Edward I. Pennies and a Groat of Edward III.; the Rev. W. Anderson exhibited a pamphlet, dated October, 1792, on the opening up of a Cairn in the Parish of Urr, in which was a curious account of what the writer believed to be an ancient mode of sepulture

Miss Cresswell showed seven photographs of snow effects taken in the neighbourhood of Dumfries.

COMMUNICATION.

The Meteorology of 1900. By the Rev. WILLIAM ANDSON.

Report of Meteorological Observations taken at Dumfries during the year 1900.

Lat. 55° 4' N.; Long. 3° 36' W.; Elevation above sea level, 60 ft.; distance from sea, 9 miles.

1900.	Months.	BAROMETER.				S.-R. THERMOMETER. In shade, 4 feet above grass.						RAINFALL.				HYGRO-METER.		Dew Point.	Relative Humidity. Sat. = 100.
		Highest in Month.	Lowest in Month.	Monthly Range.	Mean pres- sure of Month.	Highest in Month.	Lowest in Month.	Monthly Range.	Maximum.	Minimum.	Mean temper. of Month.	Heaviest in 24 hours.	Amount for Month.	Days on which it fell.	Mean Dry.	Mean Wet.			
	Jan.	30.395	29.233	1.162	29.827	52.3	28.8	23.5	44.	35.1	39.6	0.43	3.80	26	39.2	38.	36.4	90	
	Feb.	30.250	28.300	1.950	29.528	49.	6.5	42.5	39.4	28.4	34.	1.02	4.07	15	35.8	34.6	32.8	88	
	Mar.	30.687	29.223	1.464	30.068	56.	21.6	34.4	46.	32.1	39.	0.12	0.25	6	37.7	35.6	32.7	82	
	April	30.533	29.165	1.368	29.895	71.	27.8	43.2	55.7	37.5	46.6	0.55	2.77	16	45.8	42.8	39.3	78	
	May	30.440	29.240	1.200	29.938	70.	32.6	37.4	58.9	43.	51.	0.84	3.21	13	50.2	46.	41.4	73	
	June	30.460	29.505	0.955	29.885	77.5	41.7	35.8	68.	49.8	58.9	1.25	4.22	19	58.1	54.2	50.4	76	
	July	30.380	29.483	0.897	30.002	76.	42.	34.	69.1	53.5	61.6	0.51	3.23	20	61.	57.5	54.4	80	
	Aug.	30.447	29.200	1.247	29.948	81.3	43.3	37.7	65.6	49.5	57.6	1.39	6.30	20	57.	54.2	51.6	82	
	Sept.	30.551	29.321	1.230	30.042	74.	35.	39.	64.5	46.3	55.4	0.98	3.11	15	54.4	52.2	50.	85	
	Oct.	30.590	29.181	1.409	29.828	62.	27.	35.	54.4	40.2	47.3	0.99	4.82	19	47.	45.4	43.6	88	
	Nov.	30.525	29.247	1.278	29.701	60.	27.	33.	48.3	38.3	46.6	0.90	4.09	22	42.8	41.7	40.4	90	
	Dec.	30.281	28.615	1.666	29.697	54.5	31.8	22.7	48.7	40.6	44.6	0.80	7.07	27	44.1	42.8	41.4	88	
	Year...	30.687	28.300	2.387	29.863	81.3	6.5	74.8	55.2	41.2	48.	1.39	47.08	218	47.7	45.4	42.8	83	

WIND—

Days ...	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Var. or Calm.
	18 $\frac{1}{2}$	48	29	31	31 $\frac{1}{2}$	80 $\frac{1}{2}$	64 $\frac{1}{2}$	41 $\frac{1}{2}$	11

BAROMETER.—The highest reading of the barometer during the past year occurred on the 13th March, when it rose to 30·687 in.; the lowest was recorded on the 19th February, when it fell to 28·300 in. The annual range was thus 2·387 in. The mean pressure (reduced to 32 deg. and sea level) was 29·863 in., which is very near the average. The months in which the highest mean pressures occurred were March, July, and September, in all of which the mean was above 30 in. The lowest were in February, November, and December, which had pressures ranging from 29·528 in. in February to 29·701 in. in November. The reading of 28·300 in. in February was abnormally low, and it is worthy of note that there were no less than six days in that month—from the 15th to the 20th—during which the barometer readings were all under 29 in. Some days previously there had been a heavy fall of snow, which lay upon the ground to the depth of 10 or 11 in., and the frost at the same time had been so severe that the river was frozen over and bearing. In connection with this storm there was an extensive breakdown of telegraph and telephone wires, and much damage done both by sea and land. The only other month in which barometer readings under 29 in. were recorded was December, in which they occurred twice, first on the 20th with a reading of 28·720 in., and again on the 28th with a reading of 28·615 in. On both of these dates there was a severe south-westerly storm, by which no small amount of damage was done. That of the 20th seems to have been the worst in this part of the country and in the northern parts of Britain generally; but in the south and west of England and Wales that of the 28th appears to have wrought still greater havoc in shipwrecks and loss of life. December was, on the whole, the stormiest month of the year. After the first week there was a series of cyclones, accompanied by strong gales from the south and west and by frequent and heavy rainfalls, which made it the wettest December in the fourteen years to which my observations extend. But some of the other months also had more than their usual share both of wind and rain.

TEMPERATURE IN SHADE, FOUR FEET ABOVE THE GRASS.—The absolute maximum or highest single day temperature of the year was 81 deg. on the 12th of August; the lowest or absolute minimum was 6·5 deg. on the 12th of February, showing an

annual range of 74·8 deg. A maximum temperature of 81 deg. was also recorded on the 15th August, but these were the only instances in which a maximum of 80 deg. and above was reached. In July the highest was 76 deg., and in June 77·5 deg. There was thus a smaller number than usual of very warm days. There were 9 days in June and 14 in July with temperatures of 70 deg. and above in the shade, but only 5 in August in addition to the 2 at 81 deg. The warmest month was July, which had a mean temperature of 61·6 deg., June was next with 58·9 deg., and then August with 57·6 deg. July was a degree and a half above average, June about average, and August nearly one degree below. The coldest month of the year was February, which had a mean temperature of only 34 deg., being fully four deg. below the mean for that month. February was in fact a month of unusual wintry severity. Not only was the lowest temperature of the year recorded in it, but there were 18 nights of more or less severe frost, with an aggregate of no less than 149 deg. below the freezing point, and a severe snow storm, as previously noted, with a strong easterly and south-easterly gale, which did much damage. The other winter months were comparatively mild. January, with a mean temperature of 39·6 deg., had several nights of frost, but none of them severe. March was cold, with some sharp frosts after the middle of the month, and a mean temperature of 39 deg., nearly 2 deg. below the mean. But November and December were both exceedingly mild, the former having a temperature of 4 deg. and the latter of 6 deg. above the average. There were six months in which the temperature was above the mean, viz., January, July, September, October, November, and December, the excesses in these months amounting to 14·5 deg. The deficiencies in the other months amounted to 8·9 deg. The mean annual temperature comes out at 48 deg., which is about half a degree above the average of 13 years. I may mention that 48 deg. is given as the mean annual temperature of Dumfries in the isothermal maps which give the lines of equal temperature. If any one has a good atlas, such as Bartholomew's Pocket Atlas of Scotland, and will look at the isothermal map which it contains, he will see that the line of 48 deg. starts from somewhere about Newcastle, then passes in a north-westerly direction to Dumfries, then west from Dumfries through Wigtown, then in a northerly direction towards Arran and the Isle of Bute, then easterly

towards Glasgow and Falkirk to Stirling, and from Stirling west again towards the Atlantic. The mean annual temperature has been as high as 49·5 deg., and as low as 46 deg. I make the average to be about 47·5 deg., but possibly a longer period of observation might give a higher mean. We cannot fail to observe, however, that the mean annual temperature of 48 deg. in the past year, which is fully up to the average or a little above it, is not due so much to a warm summer as to the unusual mildness of several of the winter months.

RAINFALL.—The most outstanding feature of the meteorology of Dumfries during the past year was the excessive rainfall by which it was characterised. The total amount which fell from January to December was no less than 47·08 inches. The average of twelve years was 36·20 inches, so that the record for the year was in excess of the mean by nearly 11 inches. This is the heaviest annual rainfall recorded at this station since observations were begun in 1886. The only approaches to it were 42·81 in. in 1897 and 42·92 in. in 1891, both of which are more than 4 inches less. The year as a whole was remarkable for its frequent and heavy rainfalls, almost the only exception among the months being the weather of March, which was abnormally dry, showing a fall of no more than a quarter of an inch, with 6 days on which it fell. The wettest month was December, which had nearly double the average, 7·07 in., as compared with about 4 in., and 27 days on which it fell. It is worthy of note that this was the wettest December of the 14 years to which the observations extend. The next wettest December was in 1891, which had a record of 6·24 in., and twice it had 5 in. August was also an extremely wet month, having a record of 6·30 in., and 20 days on which it fell. But in fact all the months except March, which was exceptionally dry, and July and November, which had about the normal quantities, showed an excess above the mean. The number of days on which precipitation of rain or snow took place to the amount of not less than one hundredth of an inch was 218 (rain, 208; snow, 10, chiefly in February), which is considerably above the average. As the result of such frequent and heavy rainfalls the river Nith was frequently in flood. In August and December it was more or less flooded during the whole of these months, the gauge at the New Bridge showing not unfrequently

depths of from 6 to 8 and even 9 feet. And after the melting of the snow in February, with a heavy rainfall of more than an inch, it must have been 10 feet. Even in April, May, and June there was a good deal of flooding. I need hardly add that the result of such a wet year, along with the excess of 4 inches in 1899, will be to raise the average rainfall of Dumfries to a somewhat higher figure than that at which it previously stood. The mean of 12 years was 36·20 in. When the amounts for the past two years are added it will come out at 37·43 in. as the average of 14 years.

HYGROMETER.—The observations of the dry and wet bulb thermometers were taken twice every day, at 9 A.M. and 9 P.M., and under the same conditions as those of the maximum and minimum thermometers—that is to say, in the Stevenson screen and four feet above the grass. The mean of all the dry bulb readings for the year was 47·7 deg., very nearly the same temperature, it will be observed, as that of the year, which was 48 deg. The mean of 48 deg. was obtained by adding the daily maximum and minimum readings and dividing by the number of observations—the hygrometer mean by adding the daily morning and evening observations and dividing as before—and the result is that there is only a difference of three-tenths of a degree between the means obtained by these two methods. This is a practical confirmation of what is often stated in meteorological treatises, that the mean temperature of day, week, month, or year may be ascertained by either of those methods with almost equal accuracy. The mean of all the wet bulb readings for the year was 45·4 deg., showing a difference of 2·3 deg. This brings out the temperature of the dew point for the year at 42·8 deg., and the relative humidity (saturation being equal to 100) at 83. The greatest humidity was in January and November, when it was 90, and the next greatest in February, October, and December, when it was 88. The months in which the least humidity was recorded were May and June, which were represented by 73 and 76.

THUNDERSTORMS, &C.—Thunderstorms were not frequent during the year, but I have noted five occasions on which there was thunder and lightning, viz., three in June, on the 11th, 22nd, and 23rd; one in August, on the 21st; and another on December

2nd. Of these that of the 21st August was the most severe, and lasted from 7.15 to 8 p.m. I have also noted thunder without lightning twice, once in July and again in December. There might have been more than these, but they did not come under my observation. Lunar halos were not unfrequent. I noted two in January, two in February, three in March, one in April, four in September, two in October, two in November, and one in December—17 in all; also hail showers twice in April, once in June, and once in December.

With regard to the wind observations, the table shows that, as usually happens, the south-westerly was by far the most prevalent. It blew on $80\frac{1}{2}$ days. The next was the westerly, which blew on $64\frac{1}{2}$ days, and if we add to these the southerly, which had $31\frac{1}{2}$ days, and the south-easterly 31, we have a sum of $207\frac{1}{2}$ days, considerably more than half the year, on which the direction was south-easterly to westerly; while the northerly and easterly, including the north-westerly, had only 147 days, 11 being calm or variable. The prevalence of these southerly and westerly winds during the winter months of January and December supplies the explanation of the extreme mildness of these months, which has been exemplified during the past year as often before. In January last, for example, there were 21 days on which the wind blew between south and west, and in December there were 23. These are the winds, however, which at the same time bring clouds and rain in the greatest degree. Hence in January we have a record of rainfall above average, and 26 days on which it fell, and in December a record of over 7 in. and 27 days on which it fell; while January had only five nights on which the protected thermometer fell to and slightly below the freezing point, and December only 3, with exceedingly slight frosts.

Mr James Watt moved a vote of thanks to Mr Andson for his paper, remarking that it was to the honour of Dumfries that they had in Mr Andson one of the most accurate observers for the Meteorological Society.

THE EFFECTS OF WEATHER ON HEALTH.

Dr Ross supplemented Mr Andson's paper with some interesting observations. With regard to the rainfall, he pointed

out that Messrs Bartholomew, whom Mr Andson had referred to, had published in their atlas a rainfall chart, and in the case of Dumfries there was a distinct line that came up from the east side of Criffel, up by Carsethorn, across again by Dumfries, and then down the other side of the Solway and across the county, showing that the rainfall was much less on the Solway shore than in parts of the country north of the line. He had obtained a record of the rainfall during the past year at Dumfries, Maxwellton, Glencrosh, Burnfoot, Ewes, Drumlanrig, and Ericstane, and he made out the average of these seven stations to be 55·4 inches—a very high record. The highest record of all came from Ewes, 445 feet above sea level, where the rainfall was no less than 67 inches. Glencrosh came next with 62 inches, and Ericstane had 58·88 inches. Drumlanrig had had it wetter than for some time past—53 inches, whereas there was a time when the rainfall was very light, approaching to about 30 inches one year. Of course the returns brought out December to be the wettest month at all the places, March appearing to have been the driest in the year. The record for Dumfries for that month was about a quarter of an inch, and in all the other places the rainfall amounted to less than one inch, with the exception of Ewes, where it was 2·2 inches. It was interesting to observe the mortality statistics with regard to the meteorology. The death rate for the year throughout the county, including the burghs, with the exception of Dumfries, was something like 17·443 per thousand per annum, the monthly death rates ranging from 28·97 in February, a cold and inclement month, to 12·520 in October, which, though a wet month, was fairly mild. February, which showed the highest total death rate, showed also the highest from tubercular diseases and from nervous and circulatory diseases. January, he supposed as the result of the wet in the previous December and because of the influenza so common then, showed the highest death rate from respiratory diseases—4·858—that in January being 4·859. A rather interesting question was discussed at some length in the *Scotsman* the other day by a writer in the science notes as to whether mild winters were necessarily unhealthy winters. The mild winter, such as this one had been, got some support from statistics. He was working out what he might call the expected deaths for certain months of the year, and when working it out for the last quarter, based upon the statistics for the county and its burghs,

excluding Dumfries, he found that the expected deaths during December, based upon the previous five years' statistics, would be 79, whereas the actual number of deaths was 90. So that, though December was a warm month, yet there were 11 deaths more than would have been expected from the records of the previous five years. These figures, however, were too small to argue from, and when they took larger figures they found that as a general rule where they had mild winters, even though they were very stormy, they had a decrease in the death rate and also in the death rate from respiratory diseases, and to a certain extent in the deaths from nervous and circulatory diseases. He thought the mild winter did seem to have an influence upon the death rate to such an extent that they might say that a mild winter was not necessarily an unhealthy one, the reason being that it did not press so hardly upon people who were naturally weak. Another curious point that the figures brought out was that the death rate from consumption or phthisis was the lowest in December, which would tend to support the doctrine that phthisis was not altogether a question of climate, and it was not altogether necessary to send away our consumptives to a milder climate if they were put under suitable conditions at home.

On the motion of Mr Thomson, Dr Ross also was accorded a vote of thanks.

15th February, 1901.

Mr ROBERT MURRAY, V.P., in the Chair.

New Member.—Mr Robert Carruthers, F.I.C., Kirkbank, Dumfries.

Donations and Exchanges.—Proceedings of the Academy of Natural Sciences of Philadelphia, 1900, Part II., March-April. U.S. Department of Agriculture—Laws regulating the transportation and sale of Game. Proceedings of the Canadian Institute for January, 1901. Stirling Natural History and Archaeological Society—Transactions, 1899-1900.

Exhibits.—Mr S. Arnott, Carsethorn, showed plants mounted by a new method, which preserved the colours, from Herbarium

Analyticum (Buysman); *Tropæolum majus*; *Lespedeza bicolor*; *Olearia ramulosa*; *Torenia Fournieri*.

The Rev. W. Andson referred in suitable terms to the death of the Rev. T. H. Thomson, Hightae, who had contributed valuable papers to the Society while a member. He had an extensive knowledge of ecclesiastical antiquities, and especially of Covenanting times. Mr Andson moved that an expression of the sense of the Society's loss should be entered in the minutes. This was duly seconded and agreed to.

COMMUNICATIONS.

I.—“*Some Observations on the Variation of Plants under Cultivation.*” By Mr S. ARNOTT, Carsethorn, Kirkbean.

SUMMARY OF INTRODUCTORY REMARKS.

In the introductory remarks the writer referred to the importance and interest of the subject as bearing upon the evolution of plants in the past. It was pointed out that, while the variations of plants could be studied from those growing in a wild state, cultivation afforded a better means of doing so, inasmuch as the plants were more under regular observation, while the greater facilities for natural and artificial fertilization and cross-breeding afforded opportunities for the appearance or artificial production of variations which could not exist in a wild state, where fewer allied plants grew together.

Attention was also drawn to the variations in form, colour, and size of flowers which could be observed among our native plants when these were numerous in any habitat. It was also stated that the writer had endeavoured, as far as possible, to give the results of his own observation and knowledge in preference to drawing upon the published work of those who had written upon the subject. It may be mentioned that the Mendelian theory, so far as it affects the subject, has not been overlooked, but that the author is not at present prepared to consider it as beyond grave doubt.

COLOUR VARIATION.

I shall begin with colour variation, as being among the most noticeable of the changes we find among flowers.

If we accept, as I suppose we are bound to do, the theory that the flower is merely the modification of the leaf of the plant, we are almost irresistibly forced to come to the conclusion that every colour to be found among flowering plants can be produced in any other genus or species. Daring as this conclusion may seem when we consider the colour limitations which exist at present in some plants, I think we can hardly escape from this conviction, distant as may appear its realisation in the case of some genera.

Let us take, for example, the *Galanthus*, or Snowdrop, as a familiar plant, whose blossoms are known to all. Its general colours are white and green. There is a form which may either be a reversion to the primitive flower or some survival which has not been subject to precisely the same influences. This has its flowers almost entirely green. There are other Snowdrops, again, which have only the inner segments almost entirely green, and which might possibly be looked upon as representing another stage in the progress of change in colouring. The normal Snowdrop, as it is known in this country, has white flowers, with a few green interior markings only, and with a green ovary. But there are others still, which are almost free from these green markings, and are really all pure white, with the exception of the ovary. There is said to have been a Pink Snowdrop, though the tales about it seem rather apocryphal. Yet it would be rash to assert that such a flower was never in existence, and it would be unsafe to say that such a thing is incredible for the future. We have, however, in the Snowdrop with yellow markings and a yellow ovary, a witness to the chances of further variations. It is true that we have not yet fixed this colouring in the seedlings, but that it can be done is almost a certainty, and there is really little reason to doubt the possibility of extending the yellow of the markings and ovary to the flower as a whole. That this is not impossible even with these flowers, which are, as it were, not so high in the evolutionary scale as others, may be seen from the *Narcissus*. Whether the *Narcissus* was yellow or white when it made its first break from the presumedly original green we can only conjecture, but we know that it is now giving us a wide range of colouring, and that a Scarlet *Narcissus* is within measurable distance. The narrow saffron margin round the cup of some flowers has deepened into scarlet; the cup itself has been induced

to share this colour; and in lately produced flowers the outer segments are now tinged with a deep hue, which leads to the goal which some desire.

One has selected these examples as being seasonable, and as offering you an opportunity of thinking of them when viewing the flowers at home. In a further observation or two upon another phase of the subject of colour-variation I shall take as illustrations the common *Scilla* of our woods—the Scottish “Craw-tae” and the English “Blue Bell”—*Scilla nutans*, and the popular *Hyacinth*, so generally grown in glasses or pots—*Hyacinthus orientalis*. I do this to show what I take to be the case, that flowers which are generally blue in a wild state have as a rule a greater tendency to produce colour variations than those which are white. The *Scilla* referred to may often be found giving not only white, but also pink, flowers in its native haunts, although, let it be noted, these sports do not seem to occur so freely on some soils than others. In cultivation one finds that many more shades can be produced. From a pink form of *Scilla campanulata*, a Spanish Squill closely related to our native *Scilla*, I have self-sown seedlings which give me many shades of blue, lilac, white, and pink. The original of our cultivated *Hyacinthus orientalis* is blue, but cultivation and selection of seedlings have given us reds and yellows of more or less brightness. We have, as yet, no yellow form of *Scilla nutans*, though one sees no reason why it should not be produced. *Scilla sibirica*, another little garden plant, was only known for years as a blue flower, but a few years ago a white variety appeared. A friend of mine, who has been working on bulbous plants with much success, from the seed of one solitary bloom of pinkish colour which appeared on a spike of which all the other blooms were blue, hopes to raise a pink variety.

While, as a rule, it seems more common to raise white forms of coloured flowers, there are many instances of white-flowered plants yielding seedlings with coloured blooms. Thus the common wood *Anemone* gives in some places plants which have blue flowers; and purple and rosy coloured forms are not at all rare.

In some families of plants the desired variations of colour have been practically secured, though progress has often been slow. A blue *Primrose* is now an accomplished fact; though a true blue *Rose* has yet to come. In trying to secure this an

eminent raiser produced one with true magenta coloured petals. One could go on with such illustrations of what is, perhaps, the aspect of my subject which will appeal to more than any other. Not less worthy of notice, however, is that connected with the

DOUBLING OF FLOWERS.

I suppose that, according to strict rule, a double flower ought to be looked upon as a monstrosity, just as one might be expected to look upon some of the prodigies in Barnum and Bailey's show. If we assume the sole object of the flower's creation is to ensure the continuation of the species, we must adopt this view, but if we apply the same doctrine to other animated things than to those belonging to the vegetable world then we find ourselves on a precarious footing indeed. In nature there are many checks to over-production of life, and if these take a form which is of a pleasing kind, why set it down as a monstrosity? It is singular, however, that we have a much greater proportion of double flowers and those which depart from the normal form among the seedlings which are slow of germinating and are weakly at birth. If, for instance, any one will sow seeds of double Carnations, it will be found that the plants which are the first to appear, and which grow most vigorously, are largely composed of single or inferior flowers. By the way, some plants which give double flowers have a curious way of securing that they should not become extinct. The double form of the common Lady's Smock produces little plantlets on some of its leaves, while the single one does not.

Of course we are largely at sea as to the causes which bring about the production of double flowers on plants. One would naturally think that the more vigorous the plant the more likely it would be to give double blooms; while the contrary is usually the case. It has been observed, however, that anything which tends to create a disturbing element in the natural course of the life of a plant is a powerful factor in making a change in its character or, more particularly, in its progeny. Various plans are adopted to secure such changes as we speak of. A very experienced gardener, who has been very successful in raising new plants, told me that when he was saving seeds of Stocks he always saved them from the side spikes, the central one being pinched out early. He said that the seeds saved from the central

spike, always stronger than the side branches, gave a much larger proportion of single than double blooms. Some of the old-time florists had peculiar ideas; but in connection with this matter their practices may not have been far wrong, though they were often apparently absurd. Thus, an old Dutch florist who flourished about the end of the fifteenth century recommended, in order that Anemones with double flowers might be raised from seed, that the following should be the practice:—The tubers selected as the seed-bearers were to be kept for a year without re-planting, and the seeds they produced were to be soaked in wine, and dried before they were sown. His further directions, which had reference to the direction of the wind when the seeds were saved and the stage of the moon when further operations were completed, are too trivial for consideration, but it is possible that the disturbing element introduced into the plant by its remaining unplanted for a year, or the soaking or drying, may have had something to do with the production of double flowers. Anything which will affect the germ is likely to have the effect of introducing that element which is at the root of the many variations which are produced.

One cannot quit this branch of one's topic without referring to the curious fact that in some allied flowers the tendency to give double flowers is less pronounced than it is in the case of others belonging to the same natural order. Among the Irids, for instance, we have but few examples of double flowers. There are, it is true, in an Iris known as *Iris Kempferi*, instances of flowers with a few additional petals, but these are produced in plants whose parents have probably been long under a course of cultivation by the Japanese. The *Gladiolus* has produced a double variety, so has the *Montbretia*; but, so far as I can recollect, these are the only flowers of that natural order which have given these double blooms which are in existence. Why, we may ask, does not the *Crocus* give us examples with double blooms, seeing that it seeds so freely? There is recorded an example of a double Yellow *Crocus*, but no one alive seems to have seen such a flower, though it is figured in an old sixteenth century album in the British Museum. A good many other bulbous plants give us double blooms, and the Natural Order *Liliaceæ* gives us double *Colchicums*, as well as some two or three partially double Lilies. One may mention the double form of the

old Tiger Lily, and a form of the Madonna Lily, which has some additional segments in the flower. Then, among the Amaryllis family, we have double flowers in the Snowdrop, the Narcissus, the Leucojum, and hardly any others. The process of producing a double flower from seed can, it is believed, be begun by fertilising a bloom which shows one or more additional petals with its own pollen only. From the resulting seeds the chances are that some plants will be produced which have more than the normal number of petals. The repetition of this will gradually increase the doubling until the flowers become unfertile or nearly so. One has only to think of some of our most popular flowers to see how these variations have been turned to account. Thus the Chrysanthemum of to-day, with its great double flowers of the most varied colours, is the descendant of a plant whose small white blooms with yellow discs are about the size of those of our common Daisy.

The influences of soil in doubling flowers, or in causing them to revert to the original single form, are in dispute, but one cannot but incline to the opinion that soil may cause changes of both characters.

In size of flower there is, of course, much variation both in nature and under cultivation. This is frequently the result of the soil and other conditions, climatic mainly. It may seem a bold thing to say, but it seems really difficult to place any limit within which size of flower must remain. Fortunately, considerations of good taste come into play to restrict the production of mammoth blooms. Then all sorts of odd forms in the shape and character of flowers may be produced—given a starting point. Petals may become deeply lacinated or the production of quilled florets may alter the whole character of the flower. If we think of what are known as “florists’ flowers,” we can form some idea only of the possibilities of variation existing in almost all flowers. Then those who are well acquainted with ferns are amazed at the possibilities of, and the actual results which have come from, variation.

BUD VARIATION.

Thus far I have referred mainly to the effects of variation from seeds, even without some of the operations and results of hybridising, which will be referred to briefly later. I desire now to touch upon what is known as bud variation. This is produced

by a branch or shoot-producing bud giving a shoot or branch which differs from the rest of the plant in colour of flowers, colour of leaves, form of leaves, or by having a different habit of growth, such as by drooping its branches, being more erect or by some other departure from the normal. This is known as dimorphism, and is the cause of a great number of variations under cultivation. In nature many of these are lost from want of propagation. In cultivation they can be propagated and thus perpetuated. The precise cause of these bud variations seems even more obscure than those which are raised from seeds.

There is in connection with this bud variation or dimorphism a singular fact. This is, that the same "sport," as we call it colloquially, may be produced at the same time in gardens hundreds of miles apart. This is very noticeable in the case of *Chrysanthemums*. These, like *Roses*, when they sport, have generally the habit of the plant from which they have sprung, but have the flowers of a different colour. In the *Rose*, however, sometimes the flowers are the same as the parent, but the sport is of a climbing habit, while the original is dwarf and non-climbing. Many of our variegated and golden or white-leaved shrubs and ornamental trees are produced in the same way.

This naturally leads one to remark briefly upon the variations effected by means of grafting one plant upon another. I confess that this is a branch of my subject upon which I know very little from my own experience, as the plants operated upon in this way have nearly all been shrubs or trees. It is well-known, of course, that fruit trees grown upon certain stocks are better adapted for growing on some soils than other stocks, and that certain varieties of fruits bear better upon some stocks than others. So, also, some *Roses* bloom well and produce better blooms upon the *Briar* stock than on the *Manetti*, and others, which are useless on either, will do on their own roots. How far they are affected one can hardly tell, but the quality of many fruits must be influenced also by their stock. Why the *Apple* grafted on the *Crab* does not become a *Crab* as well is not easily explained, nor is it easy to say that the *Crab* stock does not affect the flavour of the *Apple*. We know that *Cytisus Adami*, which bears both purple and yellow flowers on the same tree, was produced by grafting the purple *Cytisus purpureus* upon a yellow *Laburnum*.

One must also refer to the variation of habit in plants. In many garden plants there has been a great effort made to reduce the height of flowers so as to make them more suitable for garden purposes. This has been greatly adopted with annuals, so that there are few popular species in cultivation of which it is not possible to obtain dwarf, compact strains of seed. Now that so many perennial plants are being raised from seed the process is at work with them also. Given time and unremitting care, it is difficult to say to what length these changes might not be carried. Cultivated vegetables show their effects, and they have not reached finality any more than the flowers, which I have mainly dealt with to draw your attention to the subject, as well as because they are more familiar to myself.

HYBRIDISING.

Before turning to a few final observations, you will, perhaps, think for a few minutes upon the great question of hybridising and cross-fertilising flowers. Many as have been the changes effected in plants by their aids, one feels confident that these are but the preludes to immeasurably greater results in the time to come. If we look at the Begonia as we know it; the Clematis; the Fuchsia; the Gloxinia; the Pansy; the Viola; and the many other flowers which have been taken up by the plant hybridiser, we are amazed at the changes which have taken place within comparatively few years. Artificial hybridisation is the most powerful weapon which has been put into the hand of the gardener to effect variations in his plants, and, as yet, we have only crossed the threshold of the changes it is destined to make. It has its limits, doubtless, but when we see what it has done, and think of the hundreds, nay thousands of genera which man has never touched, we cannot but foresee that a vast prairie of work, and not a field alone, lies before us. What its limitations are we cannot yet tell. I had, last summer, a curious illustration of these in seeing through the garden of a skilled hybridiser who has for a few years been working on some plants he had taken in hand. Among them were some Liliums, among which we have a few good hybrids. One species was pointed out to me which had been fertilised about three years before with the pollen from another. Not only did the Lilies not produce seeds, but they are only gradually recovering from the disturbance caused

to their system by the application of this pollen. Even last summer, the blooms were imperfect.

We have passed the stage when the hybridiser was deemed a sacrilegious man, who had dared to run counter to the decrees of nature. We have discovered that Nature herself is a great hybridiser, and that many of the plants we have long been familiar with are true natural hybrids. Those who are engaged on the work now are but carrying on what has for ages been done with less certainty and fewer opportunities by the insects of the air, and by the winds of heaven.

The subject thus imperfectly brought before you is full of interest to any careful observer, and also full of value to the pleasure and profit of the human race. It is complicated by many things we can never fully fathom. We cannot tell what effect the soil in which they grow; the air they receive; the water they absorb, may have upon these plants. We know that the higher the plants grow up the mountains the more brightly coloured are they than their fellows which are natives of the more lowland hills. We know that the colours of some flowers can be changed by some ingredient in the soil in which they grow, or by a solution of some chemicals in the water applied to their roots. But we cannot understand why some others are unaffected under similar conditions. Nor can we understand why the florist's Tulip remains for so long a self, or almost self, coloured flower before it assumes the markings which delight the fancier, and which made it the subject of one of the maddest manias of history. Why do not the bulbs of the same age assume their new garment at the same time? Why do some individuals "break" in a few years while others remain "breeders" for many? Problems such as these await the inquirer at every turn in the search into the mysteries of the laws which control these variations. Many of them are subject to our control, but many others seem as the "wind that bloweth where it listeth," and teach us the old lesson of our ignorance. We are still gathering pebbles by the great sea of knowledge which stretches out to infinity. Yet among them we shall find some which are precious, and which show us that many things await the observer and experimenter in such branches as this.

II.—Mr JAMES S. THOMSON, Dumfries, read a paper on "*Water Power in relation to Electric Generation.*" Mr Thomson was cordially thanked for his interesting contribution.

8th March, 1901.

The Rev. JOHN CAIRNS in the Chair.

Donations and Exchanges.—Report of the British Association for the Advancement of Science, 1900. Annals of the New York Academy of Sciences, XIII., 1. U.S. Department of Agriculture: North American Fauna, No. 16—Results of a Biological Survey of Mount Shaster, California, by C. Hart Merriman.

Correspondence.—A letter from Mr Moreey was read asking names of parties in this district willing to undertake phrenological observations. It was resolved to submit the name of Miss Cresswell, Nunholm, and to communicate through the Rev. W. Andson with Mr Gorrie, Sorbie, and Mr Wallace, Auchenbrack, whether they would also undertake to make these observations.

COMMUNICATION.

Resumé prepared by the late Dr JAMES MACDONALD, F.S.A. Scot., of Dr Archibald's "*Account of the Curiosities of Dumfries,*" and "*Account anent Galloway,*" from the Sibbald MSS. in the Advocates' Library, read by Mr J. C. R. MACDONALD, W.S., Dumfries.

NOTES CONCERNING THE WRITER.

So far as I can ascertain, this "Account" has never yet been published; and, though its value is certainly not great, it derives some interest from the fact that it was written at least 200 years ago, and that its author was one of the leading medical practitioners of his day in the town of Dumfries.

It is but fair to remember that at the end of the seventeenth century Scottish Archæology was only in its infancy. Sir Robert Sibbald, for whose use the "Account" was drawn up, may be said to have been its father, and though his numerous works on the

antiquities and natural history of Scotland have long been out of date, and are now little known, he deserves to be remembered for the untiring zeal with which he prosecuted his inquiries.

In collecting information, Sibbald sought the assistance of men of education in the different districts of the country. Nicholson in his *Scottish Historical Library* has given us the names of the most prominent of them. From this source we learn that from Dumfries he enlisted the services of Dr Archibald, from Galloway those of the Rev. Andrew Symson. At Sibbald's death the great part of his MSS. collections was purchased for the Advocates' Library, where they are preserved. Among them are copies, and in some cases perhaps the originals, of most of the district reports on natural history and antiquities. Archibald's as well as Symson's are contained with several others in a small quarto volume, in which they have been very neatly engrossed by the same hand, apparently about the close of the seventeenth century.

Dr George Archibald, who, as just explained, was Sibbald's correspondent in Dumfries, was the son of the Rev. Robert Archibald, minister of Dunscore from 1651 to 1662, and one of the four hundred uncompromising Presbyterians who, on the re-establishment of Episcopacy by Charles II., gave up their livings in the Church of Scotland rather than do violence to their convictions. Mr Archibald died in Edinburgh in 1688. About that time his son settled in Dumfries as a medical practitioner, and dying there in 1715, was buried in St. Michael's Churchyard. "Resting on the east side of the sacred edifice, near the north-east corner," writes Mr M'Dowall (*"Memorials of St. Michael's,"* p. 371), "we discover a large loose slab, which commemorates George Archibald. Neighbouring stones press upon the relic so closely as almost to veil it from cursory observation; but, neglected though it now is, it must when entire have presented an imposing appearance with its carved escutcheon and richly-chased border. It might with great propriety be removed from its obscure position, and placed near the kindred memorials of his mother and his second wife, where room for it could easily be found, below the middle window of the church on the south side. This 'Doctor of Medicine,' as he is termed in the inscription, was one of many distinguished medical men produced by the burgh both in ancient and modern times. . . . Crossing the stone in oblong fashion is the following brief epitaph: *Clarus in arte fuit medica, pius æquus amator*

doctrinæ et morum, lepidus, cunctis-que benignus; which may be thus translated: He was distinguished in the medical profession, pious, upright, a lover of learning and morals, amiable, and kind to all." Mr M'Dowall's suggestion that the stone should be removed from "its obscure position" has not yet been followed up. It still remains as he saw it.

So far as can be gathered from the memoranda available, it was Dr Macdonald's intention to give the Society not exactly a mere transcription of Dr Archibald's "Account," but to eliminate such of the "curiosities" as are only calculated nowadays to excite a smile, and to present the remainder in the precise words of the text, with expository notes of a character such as might have made the paper one of real value to all interested in the antiquities of the district. The notes, however, are so fragmentary, and my own scholarship is so sadly at fault, that I have found it quite beyond my ability to carry out the original plan. I must, therefore, beg the Society to be satisfied with the "ipsissima verba" of the "Account," and I have only to add that in order to ensure accuracy, I have myself verified Dr Macdonald's transcription by carefully comparing it with the manuscript in the Sibbald collection. It might be well that I should make two further remarks of a prefatory nature. The first is that the "Account" is apparently addressed to a mutual friend of Sibbald's and the writer, who had been employed by the former as a medium of communication, and that it was drawn up and transmitted in two sections. The second is that although the "curiosities" described are said to be "at Drumfriess," Dr Archibald tells us very little about the town, but makes frequent and erratic excursions into the surrounding country.

DR ARCHIBALD'S PAPER.

In answer, says the manuscript, to the Doctor (*i.e.*, Dr, afterwards Sir Robert, Sibbald) his advertisement and your desire, I must say—"Mensis est vobiscum parca, sed palleas colligamus" [the harvest is scanty, but let us collect the straws].

As for the nature of this country, yourself can sufficiently inform the Doctor, and also as to the product, which you know to be wool and cows; fish and tallow for Bordeaux exchanged there with pruns, wine and brandy; skins and hides for Holland. Our trading is with France, Holland, and Dantzich.

I have not observed anything worthy his notice cast up from our narrow sea.

Near this, or within ten miles in the Stewartry of Galloway, are silkworms, bastard amethysts, limestone, pearls, and (as is thought but not yet found) lead and coal.

In Nidesdale are ancient houses such as yourself can inform; for nothing is here which is not ancient enough, and few things new. You'll inform concerning the ancient houses and lochs, such as Oloseburn, &c.; woods, such as Tinwald, Mouswald, Carlaverock, Dardarroch, &c.

As for Drumfriess, you also sufficiently know it; it is so called from the Freez-well beside it. It's ruled by one Provost, three Bailies. Its revenue is reckoned betwixt five and six thousand merks. You'll inform of the old Grayfrier Church, where the Cumin was killed; of the Castle, bridge, church, new exchange, our large granary house, which though old is still new work; our stately cross, large street, and pleasant situation by and amongst the River Nith.

Just beside this town, upon the side of the river, hard by the Castle of Cumin, in the place called Castle dikes, once well fortified with mounts and ditches, but now ruinous, springs a fountain most strongly all summer, harvest, and spring, though never so hot and dry, which precisely about Hallow mass (as is generally reported) dries up (though the winter were never so rainy) until the spring.

Within four miles I remember to have seen a spring, which at that time was dried up, wherein may be digged abundance of an earthy substance, like litharge of gold, unctuous and greasy, which, when the people mix it with water, casts up a splendid, golden, oily-like colour, wherewith they colour their doors and windows.

Within ten miles is a well whence the neighbouring people digs an earth which they call Bleck. It's black and thick (as I remember), *instar Limi Argilasi* [like the clay of potter's earth]. Herewith they colour much of that cloth they call Galloway grays.

I did here see a boy five or six years old (living within three miles of this place) out of whose joynts, shoulders, buttocks, fingers, and toes did grow little horns, like the typhi or young horns of a goat, black and hard; which, when they came to the

length of two inches, did sorely trouble him and fall off, others succeeding thus every half-year.

In a moss which lies upon the east side of this town, seven miles long and one mile broad, did I have the leg of a child cut off (as appears) by the patella. It's of a stickish like substance, the tibia and fibula inhosened in a casement like the black bark of a tree, which is in place of the muscles tibiaeus, peronaeus, &c., all the interossean muscles of the foot, toes, ancles, nails, and all other parts exactly well proportioned as anything Nature can efform. "Num fuerat lutum instructum animal principio integrum, vel deficiens animal procedens: an fœtus humo commissus, et a bituminoso calore conservatus et processu temporis quasi transmutatus dignus est D. D. Sibbaldo nodus, ad cujus augusta subsellia hoc ipsum reclino." [Had the formed clay been an animal originally entire or an immature animal in process of development? Was it a fœtus buried in the ground, preserved by the bituminous heat and in process of time transformed as it were? This is a problem worthy of D. D. Sibbald, on whose august judgment seat I leave the thing itself.]

As for Annandale, the supreme governour, steward, and lord thereof is the Earl of Annandale, an ancient Family and Wardens of the Border. Wherefore their arms are supported with a saddléd horse and a crowned lion carrying upon the crest a flying spur. The motto is "nunquam non paratus" [never unprepared].

In this country are the wells of Moffat, encircled with a wall by the foresaid Family.

His houses are Lockwood and Newbie; the one desirable for strength, the other for pleasure; that for pasture, moss, or fire and wood, this for fish and plenty of coney.

Here is the King's Castle of Lochmaben, famous for defending the country in the old English inrodes, strengthened by a Loch surrounding it, where the fishes called venaces and gevenaces are talked of in nowhere else in our country. They are pleasant white fishes.

Contiguous to this loch are seven large lochs, all of which have the same fishes, a clear and stony bottom, with a tossing surge and noise before a storm blow. The fishes resemble whittings in colour, taste, and figure, being only a little more dry.

Besides this castle is a moss which giveth peits [peats] for fire, most white, yielding a bright shining fire and flame.

Here is also in this county St. Ruth's Church, called Ruthwell, where lies a monument broken in two pieces, which was a pillar quadrangle of stone reaching from the bottom of the church unto the roof, and in it cut the portraiture of Our Saviour with beams encircling His head, and beneath His feet, "Supra serpentem et draconem conculcabo" [I will trample the serpent and dragon under foot], and underneath is the effigie of Peter and Paul, beneath whom is "Petrus et Paulus fregerunt panem in deserto" [Peter and Paul broke bread in the wilderness]. Many other draughts and letters, Greek, Latin, and Hebrew, have been there, but time and ill-using hath abraded them.

At this place the people have a way of making salt from the sea sand, which they gather up in summer and prepare in winter. If the Doctor desires to know the way they prepare it I shall give him an account.

Upon the top of a great height is a Tower called the House of Repentance, some eight miles from the King's Castle and fifteen from the English border, where beacons being placed the Castle had immediately an alarm. This was seen by most of the whole country and much of Nidesdale and some of Galloway, putting them to their sudden posture of defence.

As for wells, the three shires abound with many unto which people resort, more famous from Fable than Fates; yet several of them resemble Moffat wells in colour, taste, and smell.

As for the nature of the soil and the houses, with woods and lochs, yourself knows and hath seen them.

As to Galloway, I have remitted it (conform to your last) unto Mr William Ewart, the Provost of Kirkcudbright, who will give account of what is observable and memorable, where are the most ancient monuments of this country, and many old abbaceis, as New Abbey, Dundrennan, Whithorn, Glenluce, Tunland, all very considerable; and with us are only Holywood and the church of the College whereof yourself can as well inform as I.

FISHES.

In that Castle Loch of Lochmaben are various fishes besides those two formerly mentioned—pikes, greenbacks, breams, vetches, perchies, with some others.

I will give you an account of our sea fishes with the next, being now hastened.

In the months of June and July they take an harrow and go over the dry sands (which I have observed spangling as with shining nitre), and having raised it they rake it into small ranges or areolas, and next day (if they fear rains) they take a sled with a broad board fixed to the hinder part thereof the edge downward upon the ground, which they call the happ, and with this drawn by an horse they gather the ranges together into an heap. Thereafter, within some few days, they carry it away upon wagons drawn by eight oxen unto the coast, and there they heap it up into the bigness of a country house, which they then call the salt stalks. Thus it stands till winter, and then they form an even piece of ground upon a little ascent, either naturally or artificially so, after the form of a bed, which they oblute with clay, raising the edges high, and near the end of this bed (which they call the coach) they pierce through an hole into an hollow place digged below into the earth, called the pit, and this hole they stop. Then they carry a sufficient quantity of the salt stack and spread it over the whole coach, laying it three foot thick equally. Then they lay down upon the middle of the sand a broad turf, and upon this they pour down a sufficient quantity of sea water, which they take up from the little hollow ponds they dig within the flood mark, being there left in the ebbing, and, after eight hours' standing with the sand (which they call "blanking"), they pull out the stopple below, which is made up of oak or alder tree bark, and the water stills down into the pit, wherewith they then fill their pans, which are placed near the coach, and made of lead sitting upon a furnace. The pan is usually an ell and a half long and near an ell broad. The fire is of peits (peats), wherewith they exhale the water till the salt only remains, watching most vigilantly, otherwise their pans melt and they lose their pains. With this those people help themselves, and serve the country about them.

It is made at that place called Ruthae Vallum or Ruthwall, where that monument of stone is of which I did give account in my first, which is said to have been erected by the Saxons, having progressed no further into this country than that place, and that thereafter by Christians inscribed with sculptures and characters.

The salt is somewhat amaricant, which I suspect to be from the nitre.

On these lands, as I remember, I have seen Kali grow thick,

and on the banks *Brassica marina*; upon the opposite coast, on high rocks, crithmum, called Pespire.

Fishes in this coast might be more observable if we had fishing. I give the names as here called: Salmon, crowner, keiling, sturgeon, whiting, cockle, mussel proans (which they call garnets in Holland, or garen), cleurks, which I did never see elsewhere—they are like these prans in figure, and above all things resemble the smallest and roughest of horse corn; they are clear and transparent, with a forked tail and two long cornua stretching from their head straightforward. The manner of catching them is this: In the entrance of the River Nith into the sea the poor people goes, when the sea is ebbing, into the water middle deep, two by two, carrying betwixt them a long sheet or blanket, and with one hand they hold deep beneath the water the one edge of the sheet or blanket, and carry the other upon the surface of the water; thus walking against the stream they catch pockfuls of these vermin-like fishes, and the country people hold them most wholesome and appetising, being boiled with leeks and sprinkled with salt and eaten with bread. Oysters, sole-flouks, turbot-flouk, eels sometimes three ells long or more (I have the head of one more than a large foot in length), skate or flounder, etterpyles like a small burn trout, with a large head and broad shoulders, carrying three stings on the back and one at the corner of each side of the mouth. It is a pleasant fish for eating, but its stings are so tormenting that the pricked person is scarce able to stir, but must be carried home, and after a while's pain, as three days, it ceaseth and the swelling falleth. They flat these pricks down upon their backs, and raise them at pleasure or when irritated. Skeddan, a fish so called, but esteemed an anchove. These two are found in the Annand water and Solway sands into the sea, or close by the east of Annandale's House, Newbie, where he dwells. Haddock's herring, not very much desired because they banish these other fishes a long time. Sea-adder, thornback, lamprey with a beck (beak) stretching like a whaap's, hirlings, seaneedle, which has a long beck three inches in length; its body is the length of a burn trout and much like a whiting with a forked tail, each fork an inch long, with fins and scales. Rush-fish, called so from their smell and colour, being sea-green coloured and smelling like a bundle of green rushes. There seem

sparlings, white-flock, whereof some are a little blueish, with golden-like spots over all the skin; skatelnad, which is a little small fish an inch and a half long, shining clear as silver, which the people eat (boyled) with their bones, head, and tail. They can only endure one boyle or two. Lumps or Limps, Partons.

FOWLS.

Biltour, making a great sound in the summer evenings and mornings by thrusting her beak into the ground when she cries.

Blackcock, whereof Sir Robert Daljell hath one hanging in his hall, which is white almost all over his body.

Green plover, returning every spring in abundance and staying all summer.

Jay, called Lipper-jayes, taught to speak as exactly as any parrot.

Myresnipes (which like a Feldefare), called heatherbleet. In pleasant summer evenings they soar high in the air with a quivering voice, and are excellent meat.

I mention none else, as being ordinary, save woodpeckers.

QUADRUPEDS.

In the wood of Glenae, belonging to Sir Robert Daljell, are perfect squirrels, but never exceeding the bigness of a little rat; badgers in Galloway, which the country people catch and boil, removing their fat for aches and bruises; hedgehog, hart, and hind running wild on Galloway mountains; others in several places.

INSECTS.

The kind of grylle, focarii or pistrinari, are here abundantly, very like cantharides.

This aranea which I have sent with its silk beside it, whereof none are to be found in our country but in this one place, which is a cove upon the seashore, environed therewith (very near) at each full tide. The persons I employed to search for them tell me that with lighted candles they crept into the little entrance, and then came into a large dark arched room, upon which here and there hang those little balls full of young, and the lady one spinning amongst or about them: nothing else to be found there within the vault.

FOSSILS.

The earth called Bleck digged out of a pit an ell and a half long and near as broad and the depth of a pike. The country people boil alder or oak tree bark in water, making a strong ligive, and therein they boyl this also together with their cloth, which thence receives a black colour. Traditionally they report here a ship laden with iron to have sunk. The lake smells exactly as Moffat well, the sea sometimes overflowing it. The earth when taken from the place quickly spoysls and losing its black colour turneth into a clay colour unless the vessel be covered with iron or iron put into it.

I have not yet gotten that lithargick-like earth, neither the white peit (peat), but shall send them as soon as possible.

I have sent the *Tibia efformata fossilis*, which I desire you be pleased to send me back again as soon as you may.

I could send you that stone, which is like the Bristol stone, and another which is *cornu servi fossile* with signatures. I hope you will send them back again to me.

WELLS.

Here are many superstitiously used, but physical I know none save Moffat Wells in Annandale. A well in Closeburn Parish, in a moss belonging to the Laird of Closeburn; another at Torthorwald, belonging to the Duke of Queensberry; a third at Kirkbean in Galloway within a mile of the black lake in a meadow. These are used after the same manner, have the same colour, taste, and smell, but the ill-luck of a lesser fame.

Many run superstitiously to other wells, and obtain (as they imagine) health or advantage. But I know of no physical influence. Only from the deceits of that *musiotechnes* they are deceived, and there they offer bread and cheese or money by throwing them into the well.

And lately being called four miles hence to a gentleman's first child troubled with vomitings and faintings, I told him that I suspected the smallpocks and desired him not to fear. Then he told me regrettingly that some of his servants had given the child a draught of a well within a mile of his house which the sick parties' friends fetch there to the sick, and having given them of it to drink they reckon that they shall live if they do not vomit it, but if they vomit they must dy.

I went and viewed that well at Castledykes within a mile of this town, and saw it yet running. But it's confirmed by all who know it, and particularly one to be believed who dwelt there long, told for confirmation that he knew it these 40 years and never knew it run or spring in the winter, though never so rainy, and in the summer never dry up in the greatest drought. It is a pleasant and plentiful spring in summer, as I have observed.

And within half a mile (or less) of it upon the other side of a little height is another well which dries up for three or four mouths in the latter end of winter. But I am not so certain of this last.

SERPENTS.

Here I was told that the slow worm was found at Closeburn House, near the gate, and at the castle meadow at Cockpool.

Near this and within 20 miles was a young gentleman who in a hot summer's day did readily slip into a moss and catch an adder, which he presently thrust into his bosom, and kept it there for a while without any hurt and then dismissed it,

I saw a country woman here out of whose inferior propendant ear lob did spring such a flow of blood that she was almost gone, and thereafter when I saw her I could not perceive the least vestige of any aperture.

I have some pieces of a growing stone which I carried from the bulk of a fragment (but not found here). I was persuaded of the growing of it by many worthy persons and eye witnesses, and handled and saw it myself.

I saw and felt those horns (whereof I did give account in my first) issuing out of all a boy's extremities, and resembling young goat's horns till they acquire a due bigness and then fall off and others succeed.

Within 24 miles at a place within a mile and a half of the sea did fall a shower of herrings which covered near an half acre of ground. They were alive and eaten by gentlemen who told me when I came there (which was a little thereafter) concerning them. They soon dyed and quickly spoyled.

DISCUSSION.

Mr Barbour, architect, said he rose not to make any remarks about the paper but to thank Mr Macdonald for bringing it before the society. It was, he thought, the last work his father proposed

to carry out for the society, and in that respect it was very interesting, and he thought it would of itself be an interesting feature in their publications. It showed not only many wonderful things, some of them probably quite correct, but it gave a good idea of how matters were regarded at the time by even an educated man such as Dr Archibald was. With reference to the date mentioned, it struck him that perhaps part of it must have been written at a later date. It mentioned, for instance, the cross of Dumfries. The expression was "our stately cross." He had no doubt that that referred to the Midsteeple, which was built in 1707, during Dr Archibald's day. Before that time there was a standing cross, but the Midsteeple itself had since been called the Cross of Dumfries. One of the wells referred to was the Brow Well. The Castledykes Well he did not know, unless that there was a stream from a spring there still. Of course he could not identify it with the one that was described there. He proposed a hearty vote of thanks to Mr Macdonald.

Dr Maxwell Ross, in seconding, said he understood Ruthwell was derived from Rudvald, meaning a stream from the wood, but one found over and over again that certain parties had got an idea it was derived from St. Ruth, and he recollected very well some years ago being taken by a person living there to see the original St. Ruth's Well, which he said he had just discovered two or three days before. He happened to be doing some work in the district, and this young man asked him to go and see the spring in a field down below the village, which he believed to be the original St. Ruth's Well. That derivation had been given on more than one occasion to him, although he did not suggest that it was correct. His experience with reference to wells was, that in moving along the coast of the Solway, and particularly about Priests side, he had come upon wells of a sulphurous character, and also wells of a very strong chalybeate character. There were two wells which certainly had the very marked odour of sulphurous hydrogen, and he was informed that there was once a doctor resident in Annan who used to go there regularly for his glass of sulphurated water. It had as strong an odour as that of the Moffat sulphurated water. The wells containing iron were so strongly impregnated with it down there that if an attempt was made to make tea the result was the production of a kind of ink, so that it could not be used for domestic purposes. With regard

to the making of salt, one still saw the holes in the shore down there such as must have been used for that purpose.

Rev. Mr Andson said a curious fact was brought out, that there were a number of the wells which were not merely considered to be medicinal, but holy wells. One not referred to was that of Cargen, in which offerings were cast, coins not unfrequently; and it was mentioned in the paper that bread, cheese, and such things were sacred offerings.

Mr J. S. Thomson, referring to Castledykes, said on going over it the other day it was pointed out to him that there were the remains there of the old moat that used to encircle the house. He looked down and saw a deep excavation. Whether it was part of the old moat he did not know, but certainly there was such a thing as would have corresponded to it. Mr Barbour seemed to think that the "stately cross of Dumfries" referred to what would be the new Midsteeple at that time. But he was under the impression that there was a cross independent of the Midsteeple. Its site had been pointed out to him as having been several yards south of the step of Mr Miller, the engraver's shop, towards Bank Street, where a few transverse stones were laid in the pavement. Other people had told him that that was the site of the old fish cross, as if there had been at one time two crosses in the town.

Mr Barbour said he would suggest that Mr Macdonald might be kind enough to work up a little paper upon the life of Dr Archibald. His father was minister of Dunscore, and a very eminent man. There was a story told of him in the Presbytery books. At that time the Presbytery dined, and every member was required to be present, and if he was not present and could not give a proper reason, he was fined. (Laughter.) Mr Archibald of Dunscore one day came to the Presbytery meeting late, and was asked why. His reply was that his pony could not be "gruppit." (Laughter.) There were two or three appreciative notices of Dr Archibald himself in the minutes of the Kirk-Session. If the society wished it, he would give a short paper in regard to the question of the Cross. (Applause.)

The Rev. John Cairns, who presided, said they would all have liked if the original author, Dr Macdonald, had been able to give the paper, but he thought Mr Macdonald had done exceedingly well in the circumstances, and had given them not only a

very consecutive but a very interesting paper. Dr Archibald appeared to belong to that old school of physicians who were good classical scholars. There were incidental references in the paper which struck him that he probably got his classics and medicine in Holland, where a great many of our medical men and ministers were educated in those days, and it would be interesting to inquire whether it was at the University of Leyden or one of the other Dutch universities that had such a great reputation last century. About some of the topographical details it was interesting to note that part of Greyfriars' Church was still standing, but there was a reference to Comyn's Castle, and also to the Castle of Dumfries, which seemed to bear upon a very able discussion by Mr Dickie (in "Dumfries and Round About") as to the original Castle of Dumfries. He thought Mr Dickie's theory was that Comyn's Castle was the original Castle of Dumfries, and they found Dr Archibald speaking of Comyn's Castle and the Castle of Dumfries. As to the derivation of Ruthwell, it was new to him, but it seemed to sin against a fundamental law of derivation—that is, if you had two derivations, reject the most obvious one. It looked to be too obvious. He thought the derivation that Dr Ross had indicated would be much more like the thing.

Mr Barbour: Why not take Sir Herbert Maxwell's suggestion, "Rudewell?" "D" in Welsh is "th," and if we take it in the same light as in the case of Ruthwell Cross, that would be Rudewell.

Dr Ross: But if you take the common pronunciation of the parish amongst the inhabitants, I think it supports the other derivation. The common pronunciation is Rivvel. They never speak of it as Ruthwell.

Mr Cairns said he thought the Norse settlements in Dumfriesshire, such as Tinwald, Torthorwald, Mouswald, would afford material for an interesting paper. He had much pleasure in conveying the thanks of the meeting to Mr Macdonald.

Mr Macdonald, in replying, said he accepted the vote, but he did so with the assurance that he himself deserved no credit whatever for putting the paper together. He was only sorry that the paper as he had presented it was so different from what he knew it was intended to be. He thought possibly one of the lessons that would have been enforced would have been what Mr Barbour suggested—the degree of credulity that obtained in those days

amongst well-educated men regarding matters that had been reported to them, such as the shower of herring, and things of that kind. He appreciated their kindness very much in receiving the paper such as it was. There was a third account sent by Dr Archibald to Sir Robert Sibbald which had also been transcribed, but which he thought it unnecessary to put before the society, because it was printed along with Symson's communications as part of the appendix to a book which Symson subsequently published, entitled "A Large Description of Galloway."

17th April, 1901.

Mr ROBERT MURRAY, V.P., in the Chair.

Donations and Exchanges.—The Secretary read a letter from Mr W. J. H. Maxwell, M.P., forwarding ten coins of the reigns of Alexander III. and Edward I. and II., which he had been able to obtain for the Society out of the Treasure found in Closeburn Parish last winter. Mr Maxwell was thanked for his services. The following exchanges were intimated:—Bureau of Ethnology, U.S.A. Part II. of the 17th Annual Report. Journal of the Elisha Mitchell Scientific Society, 17th year. Geological Institute of Mexico, 14th number.

COMMUNICATIONS.

I—"Some Bird Notes from Eskdale." By Mr RICHARD BELL of Castle O'er, Eskdalemuir.

In the parish of Eskdalemuir a student of ornithology will find his observations limited to the more common species of small birds, and to owls, the smaller hawks, and the *corvidæ*.

Rare visitants are rare indeed, and these, for reasons best known to themselves, seem generally to give the parish a wide berth. I think this paucity of species is owing, in great measure, to the natural features of the parish, which lacks the bosky brakes, the hedgerows, and young plantations so congenial to the wants of our feathered friends, and who find plenty of their favourite haunts in the lower and more cultivated parts of the country.

The surroundings are almost entirely pastoral, consisting of hills and moorland; while the woods, which are generally of spruce fir, mixed with a few hardwoods, are nearly all full grown, and lie, for the most part, in the valley along the course of the river. These trees, with their large coarse branches, are not suitable nesting places for the smaller birds; they prefer those from six to ten feet high, with closer and greener foliage, which afford them better shelter from their numerous enemies.

Owing to these circumstances I will confine my remarks to-night, with one or two exceptions, to some of the rarer visitants to the district, which have been observed by myself or friends. Several of them are common enough in more favoured districts, and I will only refer to them as being rare in Eskdale. One or two, which I have seen further from home, are rare anywhere, and being objects of general interest, I will take the liberty of alluding to them also.

THE GOLDEN EAGLE.

I have only heard of one specimen being seen in the district. It was shot on the farm of Cote many years ago.

HONEY BUZZARD.

A specimen was shot in the year 1850 by my brother, and was stated by the late Sir William Jardine to have been the second Scottish example then recorded.

ROUGH-LEGGED BUZZARD.

I myself shot one in the parish of Westerkirk in the year 1867. I saw it fly from a steep bank of thorn and hazel and disappear behind a large tree which screened it from my view for a second or two, but so soon as it passed the tree I, on the impulse of the moment, fired, and unfortunately my aim in this instance was too sure—I say unfortunately, as I deprecate the destruction of every rare visitor; but I was young then and anxious to secure anything rare. I confess myself culpable, and the fact of my being ignorant as to what the bird was till I picked it up is no excuse, as I was sure it was a rare one of some kind. I regret the barbarous act, and would not now destroy a rare bird. This one had indulged so heartily in a feast of partridge meat that its crop burst when it fell to the ground. Seven specimens were

seen at one time during the Vole plague of 1876, and some years ago one frequented the parish for a considerable time. I will again refer to these birds when speaking of plagues.

MERLIN HAWKS.

These birds sometimes, but rarely, breed in the district, and I never saw one till I came on a brood of young birds in a wild, outlying part of the country, on the watershed between Dumfriesshire and Roxburghshire. I was walking over the heights when my attention was arrested by a hawk rising close to me and settling a few yards further on. On looking about me I saw other four on the ground, and the parent birds having come on the scene, I discovered they were merlins. The chance of procuring a live specimen of such a rare bird was too good to lose. I thought, as they apparently had very lately left the nest, that I would have no difficulty in securing one; but I was foiled in my attempt, and in a very irritating way. Whenever I got close to one of them and imagined I had only to put out my hand to seize it, it rose up and flew about twenty yards only, carrying out the same tactics over and over again. In my eagerness I commenced running, in the hope of tiring one of them out, but it was they who tired me out, and I frequently fell down exhausted in the act of stretching out my hand. After spending an hour in this fruitless work, and considering that I had a rough walk of twenty miles before me, I gave it up in despair, and my collection remained minus a native specimen of a merlin hawk.

KINGFISHERS.

Within my remembrance a kingfisher was unknown on the river, but now scarcely a season passes without one or two being seen, though no nest has ever been discovered.

NIGHT JAR.

I have known of four specimens only in the neighbourhood; one was killed by a shooting tenant on the open moor at the head of the parish. My brother saw one on the lawn at Castle O'er, hawking in the dusk, round a cherry tree. I myself saw one at Castle O'er, sitting along the trunk of a fallen-down tree. These birds sit lengthways on a branch or log, not across it—and one

was shot at Westerhall, in the parish of Westerkirk, some time in the sixties.

SAND GROUSE.

During the invasion of these birds into Britain in 1887, several were seen on Castle O'er ground, as well as at other places in the parish, but as I was residing in England at the time I did not see any myself. They did not remain to breed.

QUAILS.

One was shot many years ago on Castle O'er by my brother-in-law, Mr Wilson, Billholm. It was stuffed and kept as a curiosity, until a cat ate its head off. Some years later another was shot on the same part of the ground, and I was presented with an egg taken from a nest in Roxburghshire.

WATER RAILS.

The only specimen I have known was brought to me by one of my shepherds, who caught it far out on the hill ground. I tried to keep it alive, but it died from want of its natural food.

REDSHANKS.

Two or three pairs of these birds, which were unknown in the district till three or four years ago, come annually now, apparently to breed, into the parishes of Eskdalemuir and Westerkirk. No nests or young birds have yet been discovered, but as they have been seen during all the breeding season, and were uttering the peculiar cry of such birds when anyone approaches a nest or young, Mr Beattie of Davington tells me that he has no doubt whatever that they do breed every year on the farm of Dumfedling, of which he is tenant.

DUNLIN.

Again I have to thank Mr Beattie for letting me hear of the nesting of a very rare bird in the parish, namely, the dunlin. In fact it is the first specimen ever recorded. Last year one of his shepherds found on Dumfedling a nest containing three eggs, but the single bird, which he ever saw near the nest, was unfamiliar to him, and he never saw a male. Mr Beattie, after allowing more than the usual time for incubation to pass, lifted the eggs and discovered they were infertile. As he had never seen

similar eggs before, and never saw the bird who laid them, he took them to Edinburgh and showed them to Mr Small, bird-stuffer, George Street, who, without hesitation, pronounced them to be those of a dunlin, at the same time producing one from his own collection exactly similar to Mr Beattie's specimens. A short time after finding the nest the same shepherd saw a pair of these birds on another part of the ground, but could not find any nest. The bird who laid the eggs must either have arrived on the ground, unaccompanied by a mate, or had lost him some time before nesting.

SKUAS.

I had presented to me a very fine stuffed specimen of a very rare bird in Britain, namely, a parasitic skua. It was shot at the head of the river Kirtle in the autumn of 1867. A pair were seen together, but only one was secured. This bird is a native of the Arctic regions, and is a very rare, occasional, visitant to our shores. I sent it on loan to the late Dr John Alexander Smith, Edinburgh, for exhibition at a meeting of the Royal Physical Society, held on 22nd January, 1868. Up till then very few instances of its occurrence in Scotland had been recorded. In acknowledging receipt Dr Smith wrote me as follows:—"It is a fine specimen of a rare bird, although several young birds have been got in England. It is the *Lestris parasitica* of Temminck, the *Lestris Buffonii*, Buffon's Skua, of Yarrell's British birds." A bird in a very weak state was seen in the parish on the river Esk a few years ago which, from the description given to me, was no doubt a skua, but as it was not secured the species was not determined.

CROSSBILLS.

Three or four years ago a small flock of these birds frequented the avenue for some time. My attention was drawn to them when passing under a spruce fir—first, by hearing a grating sound overhead, and then seeing many fir cones falling to the ground one after another. On looking up I saw that there was a flock of these birds, and that the same thing was going on on several trees. The grating sound was produced by the birds extracting the seeds from the cones. They remained for several days, and were so little shy that they allowed me to get quite close to them and examine them with a field-glass. When the

flock left, one pair remained all summer; but, if they stayed for breeding purposes, I never could discover their nest. Crossbills were reported as being particularly numerous throughout Scotland and England that season.

SOLAN GEESE.

When living at Billholm a message was sent to me asking if I would come to a cottage about a mile away and see a curious bird which had been found in an exhausted condition on the hill by a shepherd. Being interested in everything curious, I promptly answered the call. I was taken to an outhouse, where I saw on the floor a solan goose. Beside it were both oats and some trout, evidently put there to see which it liked best. I did not offer it any corn, but picked up a trout by the tail and dropped it into the gaping mouth of the bird, and with one gulp it disappeared down its throat. As the poor creature was apparently starving, I held another trout in my fingers, meaning to drop it where I did the first, but this time the goose anticipated my intention, and springing up in the air it seized both the trout and my thumb. The result to me was excruciating agony. The first joint of my thumb was "cut to the bone" by its formidable and razor-edged beak. Cutting to the bone on such a part of the human body does not mean a very ghastly wound, but the pain I suffered for several days was very great. This visitor was an involuntary one, as it had evidently been carried inland the night before by a great storm of wind blowing from the direction of the Solway Firth, which is, as the crow flies, about 25 miles distant.

Solan geese, after being salted and dried, are used as an article of food in Orkney, and I remember the late Professor Ayton, when Sheriff of that county, sending us one as a present, which tasted very much like ham. Many years ago these dried geese found their way to the lowlands of Scotland, and were used as an "appetiser." A small portion when eaten before meals was supposed to tickle the appetite.

GUILEMOTS.

Another involuntary visitor was a guilemot, which was brought under exactly similar circumstances as the goose. I myself found it flopping along the public road, which runs

along the hill side, just at the gate of the back entrance to the house. As it also was in a very exhausted condition, I brought it home and put it in one of the court-yards of my aviary. But after considering the difficulty of procuring a constant supply of its proper food, I opened the door, after the bird had rested awhile, and the moment I did so it rushed out, still unable to fly, and fluttered away straight towards the river. How did the bird know the river lay in the direction it took? I am quite satisfied (from the place where it was when I picked it up) that it had never been near or seen the river. It had evidently just come off the hill on to the road. When it left the aviary it could not see the river owing to the presence of a thick hedge, beyond which was a wide, flat field, and the river itself was bounded by steep banks. Still, the bird made for it as if it had been familiar with it all its life. Was this instinct? or did it hear the sound of the water running during the time it was in the aviary?

TEAL.

These birds are very rarely seen in Eskdalemuir. I have only once seen a covey during all my sporting experience, and out of it I shot one bird only. They breed annually over the watershed in the parish of Ettrick.

WILD GEESE.

Thirty or forty years ago very many wild geese might have been seen annually flying to and from their breeding grounds, both in spring and autumn. Now, such a sight is not at all common; and whether these birds have become less numerous, or whether they have changed their line of flight, it is hard to say. I remember some years ago, when conversing with my groom on the subject of wild geese in front of the stable on a pitch dark night, that I remarked how seldom wild geese were seen now, when at that very moment we heard a flock cackling overhead. The coincidence was rather a startling one. I know of one only being shot in the district. A flock having landed in a friend's field, he secured a specimen by stalking the birds.

WOOD SANDPIPER.

I cannot include this bird in a list of rare visitors to Eskdalemuir; but as I succeeded in securing the first specimen then

recorded as having been shot in Scotland, I will take the liberty of alluding to it. I shot it on the 14th August, 1857, a little to the west of the village of Heriot, among the Muirfoot Hills, in Midlothian. I sent this specimen also to Dr Smith, who exhibited it at a meeting of the Royal Physical Society the same year. In the course of Dr Smith's remarks at the meeting he said:—"As I could find no notice of the wood sandpiper having previously been observed in Scotland, I sent the specimen to Sir William Jardine, and from the answer he was kind enough to send me, I quote the following passage:—'There is no doubt of the bird being the *totanus glareola*, Temm., as you suppose. But it is an interesting specimen, as I am not aware of any other being recorded as killed in Scotland, although it has been got in Northumberland and the borders. Your bird, I think, is in its first year's plumage, indicated by the brown markings, and the thickening of the tarsal joints. The season in which it was obtained also is just that of their leaving the breeding places.'"

WATER HENS.

The parish is devoid of suitable places for these birds breeding in any number, there being an absence of ponds, and the river is a rapid one, without a single back-water with protecting reeds. One may pass up and down the banks for a month without ever seeing one. Still, a few pairs have of late years taken up their abode permanently on the river and breed; though their numbers do not visibly increase. The only places where they can find shelter at all for their nests are at one or two spots where willow bushes hang over the water. Some years ago a water hen entered the cottage of one of my shepherds in the autumn, and took up its abode there all winter. It fixed upon a certain corner of the kitchen, and though it went and came during the day, it always returned to its favourite roosting place for the night. It was perfectly tame, and mixed with the household and dogs in the common sitting-room. It was fed chiefly on bread and potatoes—rather a strange diet for an aquatic bird, though, I daresay, it procured a sufficient supply of its natural food from the river, close to the side of which the cottage stood.

Since I began farming 37 years ago I, as well as others carrying on the same calling, have suffered in our "flocks and

herds" from as many "plagues" as did the Egyptians of old. I do not mean to enter here into a description of all these plagues, but I merely mention them so as to bring under your notice that two of them—the vole and caterpillar plagues—brought in their train, not what I would call other plagues, but "invasions" of birds, and which proved to be beneficial instead of hurtful.

During the Vole Plague of 1876 rough-legged buzzards came to it, from whence no one could explain, though Norway was suggested as the country of their advent. My shepherd, as I said, counted seven of these birds in one company, hawking about the hill-sides, and he had ocular proof that they preyed on voles. A single bird of this species is a rare sight, as previously mentioned, and if many came from a foreign country how were they attracted from such a distance? As I do not keep a permanent gamekeeper a great many owls, of both the brown and long-eared species, as well as kestrels, breed in my woods annually. The kestrels, in the absence of more congenial nesting places, build on the spruce fir trees, of which the plantations principally consist. When the plague broke out, which it did on the higher hills at the head of the valley, these birds forsook my woods and went to the "moused" ground; not an owl or a kestrel was to be seen for some months.

SHORT-EARED OWLS.

When the army of voles, on their march southwards, arrived at Castle O'er I was pleased to welcome back my "vermin," accompanied by a great number of short-eared owls, which had been attracted to the plague. My friend Mr Beattie told me he had seen fourteen owls under an overhanging bank of the river, and that the sight of so many sitting in a row blinking in the daylight was a comical one. He also counted 42 of the short-eared species on the wing at one time. This large increase of short-eared owls was a strange feature of the plague. Letters appeared in the public prints noticing it, and several writers said that up till then these owls were merely winter visitants, and that they had never been known to have previously nested in this country; but my experience is entirely opposed to this belief. I have known of these birds nesting on the neighbouring hills so far back as 1864. There was never a season up to 1879, when I had more occasion to travel over moorland than now, that I did

not either see their nests, or a pair or two diving at my dogs in such an aggressive way as to leave no doubt that a nest was in close proximity. I knew two cases of serious attacks by these birds, one on a man and another on a young lad, the latter having the back of his head much cut with their claws.

During the plague the short-eared owls bred on most of the farms ravaged by the voles. One evening when driving along a road stretching for some miles over moorland I counted fifteen parties of these birds, each consisting of from four to eight, and I have no doubt they were separate families, as they kept together hawking after voles, and at long distances from each other. They began to breed very early in the season, as one of my shepherds saw a nest so early as 29th February, 1892—leap year. The female was sitting on twelve eggs, with only her head visible above the snow, which covered the ground to some depth. Round the nest were 17 dead voles, evidently brought there by the male bird.

STARLINGS.

The very same farms which suffered from the voles were ravaged by two other plagues, caused by the caterpillar of the antler moth, of which the first outbreak occurred in June, 1885. My attention was drawn to it by seeing immense flocks of starlings passing the house during two hours each evening. They flew in continuous streams, the time chosen being invariably between the hours of 6 and 8 p.m. Each flock consisted of from one to several hundreds, and their combined numbers must have amounted to very many thousands. They followed each other in close succession, and generally kept well overhead, but one flock in particular flew a few feet only above the bed of the river. It consisted of so many birds that the stream stretched for a length of above a quarter of a mile, with a breadth of ten or twelve yards. When looking from the window I could easily fix the length of this flock, because when its head was at a certain pool in the river, its tail was at another. I could not understand the reason for such a migration of starlings so early in the season—the month of June. The number was so great that I could scarcely think so many were bred in the whole of Scotland, and the track chosen was one which I had never seen used before. After this supposed migration had gone on for several days I was

informed that there was quite a plague of caterpillars on the hills at the head of the parish. I at once associated the presence of the birds with the caterpillars, but still could not think why these flocks were nightly leaving the plague behind, to be succeeded next day by other flocks equally numerous, nor where the latter could all come from. The explanation of this was given to me by my shepherds, who told me that the birds which were seen passing every evening returned again in the early morning. Notwithstanding that so many thousands left the ground every evening, a friend who lived on the infected ground told me as many apparently remained behind roosting on the trees and the shrubbery around Cassock House, as well as on the ground in the neighbouring meadows; and if anyone approached them in the early morning the noise made by their chattering, and that made by their wings when rising, was almost deafening. I never could discover where the migrants went to roost; they flew due south, and must have travelled a long way. I would have learned where their roosting place was if it had been within a distance of many miles. If I were asked if there were sufficient numbers of caterpillars to serve as food for so many starlings, I would answer in the affirmative. They marched in armies, straight ahead, and the consequence was that when they encountered open sheep-drains they tumbled into them in such numbers that their dead bodies dammed up the water, and they might have been shovelled out in barrow-loads. The wheels of vehicles, when an army was encountered crossing the road, became quite wet and filthy through crushing them to death. One curious thing was the state of the roads during the plague. When driving in the infected district of the parish, I could not think what the surfacemen had been up to. It seemed as if, instead of putting down metal in the usual way, he had taken it out of his barrow in spadeful and scattered it thinly all over the road. On inquiry I was informed this was the work of the starlings, who had dug up the stones, probably on the search for grit small enough to swallow. The starlings were attracted to this plague in the same mysterious way as the buzzards and short-eared owls were to the plague of voles, and who can tell what agency was at work? It can scarcely be attributed to eyesight or scent, which we are told are the two senses which lead vultures from long distances to a dead carcass in hot climates. Starlings breed

in very restricted numbers in the outlying districts which were infested with caterpillars. Very few, indeed, breed within a radius of very many miles from it, and therefore it is wonderful where the countless thousands came from.

In the absence of old ruins, cliffs, or suitable rocks, they require to satisfy themselves, as breeding places, with a very few isolated hollow trees: or the thatched roofs of cottages, of which I do not think there are two left in the parish of Eskdalemuir. As an example of the avidity with which these birds will seize upon the first suitable breeding place offered to them, I may state that, in order to encourage them to breed near my house, I made twenty-five boxes and hung them up on the surrounding trees. Within a week every box was occupied by its pair. One box, which was blown down by the wind, I fastened against the wall of the house, and on the evening of the same day a pair had taken possession of it. Unfortunately I had made the entrance holes of these boxes a little larger than was necessary, and I regret that this oversight on my part was taken advantage of by a brown owl which had a nest of young ones close to the house. Many a time I have seen it land upon the perch of a box, insert its foot, and pulling out a young starling, carry it off to her nest. My mind was divided between destroying the owl, and by so doing risk another plague of voles, or allow it to kill the starlings at the risk of another plague of caterpillars. As the starlings were the more numerous, I decided in favour of the owl, and allowed her to follow out the bent of her instinct. *Apropos* of this owl's nest, I may say that when the young had flown, but before they had gone far from the precincts of their cradle, a family party from the house invaded the thicket where they were. We were accompanied by the household cat. The moment the old birds perceived pussy, one of them made a dive on to its back and flew off with both its "hands" full of fur. With a yell the cat started at full speed towards the house, and prudently gave a wide berth to that thicket for many a day. Proud of their achievement, both the old birds became very aggressive to us. They made so many swoops close to our faces that we had to put our arms up in front of them to preserve our eyes from their repeated attacks. We became so alarmed for the safety of the younger children that we considered

“discretion the better part of valour,” and, following the cat’s example, retreated to the house.

Mr Service moved a very hearty vote of thanks to Mr Bell for his very exhaustive paper.

II.—“*Forts and their Connecting Trenches in Eskdalemuir.*” By Mr RICHARD BELL of Castle O’er, Eskdalemuir.

The Parish of Eskdalemuir is rich in Antiquarian remains, and although the forts themselves have already been referred to by the Rev. Mr Dick, parish minister, in a paper on the “Antiquities of Eskdalemuir,” read at a meeting of this Society in November, 1896, perhaps I may be permitted to give some further details, especially regarding their connecting trenches, which have hitherto been unrecorded in our Transactions.

Dr Christison in his work, “Early Fortifications in Scotland,” states that there are 41 forts in the Eskdale district; of these, there are 20 in the parish of Eskdalemuir alone. This number may not appear great when we consider the extent of the parish, which is just about 12 miles in extreme length, and 10 miles in extreme width, with an area of 43,518 acres; but when we know that every one of them dominates the valleys only, and that none are more than a few hundred yards from the river Esk, or its tributaries, we must allow that they are comparatively thickly planted.

It is scarcely necessary for me to describe the appearance, or give particulars, of each of them; they are all of the same type, round or oval in shape and defended by one or two lines of deep trenches, the soil from which has been thrown up, either on one or both sides, so as to form mounds or ramparts, and so add to the difficulty of attack from the outside. These ramparts were probably still further strengthened by stockades, and all combined would offer a strong defence against an enemy armed with the primitive weapons in use at the time these forts were occupied.

The principal one in the parish is that of Castle O’er, which is of great size and of great strength, and, judging from the vast amount of labour expended upon its fortifications—all the principal trenches being excavated for some feet deep through solid

rock—it is evident that such a work was not in the nature of a temporary encampment; everything indicates that it must have served as a stronghold by its inhabitants for a very long period, possibly for hundreds of years. I am strengthened in this opinion when I consider not only the extent of defensive works in the immediate vicinity of the fort itself, but of the immense net-work of connecting trenches formed all over the Castle O'er property. But before proceeding further in this direction, allow me to make a few remarks regarding the name of this fort.

The name "Castle O'er" is, comparatively speaking, a modern one; its ancient name was "Overbie"—"bie" signifying, I understand, a castle, fort, or other stronghold—and it is supposed to be the farthest north of the three principal forts, Overbie, Middlebie, and Netherbie; or, the over, the middle, and nether forts, or castles.

It must be admitted, I think, that these ancient British works existed long prior to the Roman Invasion, and I think that the names above mentioned—which are not Latin names—refer to British forts and not to Roman camps.

I am not sure if the earth-work at Netherbie has ever been proved to be a Roman Station; if it has not, then I suggest it is British; also that Birrenswark and not Birrens was the Middlebie of old; and further, that Castle O'er, or "Over Castle," is the modernized name of "Overbie." When my father acquired the lands of Castle O'er, they as well as the dwelling-house were known under the name of Yetbyre. Not liking this name—associating it, I have no doubt, in his own mind as having some connection with a gate and a cow-house—he re-christened both lands and house Castle O'er, from the fort of that name. If I expressed an opinion at all on this change of name, I would say it was scarcely a good one, as I am told that "Yetbyre" signifies the "Chief's Stronghold," and I consider this designation a more archaic and interesting one than the modern name, Castle O'er.

The first place I find it so called is in Timothy Pont's atlas, dated 1661, though he spells it in his usual quaint orthography, "Castleouyrn," then Sir Walter Scott, in the "Lay of the Last Minstrel," speaks of it as Castle-Ower:

"Wide lay his lands round Oakwood Tower,
And wide round haunted Castle-Ower."

I have heard it suggested that the rectilinear camp at Raeburnfoot was the true Overbie, and feeling rather piqued in my vanity that an attempt might some day be made to deprive me of the name of my pre-historic fort. I spoke to the late lamented Dr Macdonald, F.S.A., on the subject, and his reply to me was—“They may cart your camp away, but they cannot cart away its name; it has been known as Overbie from time immemorial.”

This opinion, expressed by such an eminent Archæologist, was a great consolation to me, and, as recent explorations at Raeburnfoot have failed to prove that it was occupied by either British or Romans for any length of time, I am glad to think that the name of Overbie, as applied to Castle O'er, still “holds the fort.”

Shortly after the rebellion of 1745, General Roy was instructed by the Society of Antiquaries of London to survey and make plans of some of the principal forts and Roman camps in Scotland; this he did, and the result was the publishing of his great and well-known work on these Remains, “Military Antiquities of the Romans in Britain.” Among those figured in his work is Castle O'er, and he describes it as the *supposed* Uxellum of the Romans; this is mere surmise, and I myself prefer to look at the fort as a more ancient landmark in the country where it is situated than any of the remains of camps left by the Romans.

The General's description of the Fort is as follows:—“In Eskdale moor, on a high point of land, formed by the junction of the Black and White Esks, Castle Over is situated. The nature of the fortifications of this ancient place will be best conceived from the plan and sections of them which accompany this work. But besides these principal vestiges, which are all that are here referred to, there are traces of extensive lines that have reached towards the south, but chiefly towards the east, as far as the bank of the Esk, seemingly with the intention of keeping up the communication with the river. From the concurrence there of so many circumstances, remarkable vestiges, lofty situation, affinity of name, vicinity to Mons Uxella, and position westward from Trimontium, there surely seems sufficient reason to conclude that Castle Over is the Uxellum mentioned by Ptolemy and Richard as belonging to the Selgovæ, and which appears to have stood not far from the eastern frontier; the summit of Mons Uxella prob-

ably forming the boundary between them and the Gadeni. That part of the works of this place were originally British there seems to be little doubt; though the Romans, after they got possession of it, might add to or alter them according as they saw reason for so doing."

As I before stated, the fort is of considerable size, and is situated on the top of a hill, 884 feet above sea level, and 296 feet above the dwelling-house, and so near it as to be reached by an easy climb of a quarter of an hour. The fort is composed of what I will call an inner stronghold, defended by deep trenches, on the inner side of which have been strong stone walls, now, alas! entirely destroyed. The outer sides of the ditches are mounds or ramparts, formed, as usual, with the excavated soil. This stronghold occupies the whole top of the hill, and measures, roughly speaking, 510 feet long and 350 feet wide, whilst the size of the whole fort, with its immediate surrounding trenches, is just about 900 feet long and 570 feet wide; these measurements being, I understand, of unusual dimensions for a fort of this type.

As no excavations had ever been made with a view to discover any relics left by the original occupants of the fort, or signs of a subsequent occupation by the Romans, as suggested by General Roy, I employed men for some time, digging at every point where I thought anything might be found, but entirely without result, excepting one coin and a beam of charred wood about seven feet long. I caused sections to be cut through the trenches, to ascertain their original depth and conformation; some of this work was done under the supervision of Mr Barbour and Dr Christison, F.S.A. We found that the trenches, as they exist now, are nearly eight feet deep and 35 feet wide between the tops of the two ramparts; on removing the soil which had, in the course of ages, been washed down from the sides and summits of these ramparts, we found it was nearly four feet deep, and that the trench was cut to a corresponding depth through the solid rock, two feet wide at the bottom, just wide enough for a man to walk along it comfortably. Allowing for this "wash down," the trenches must have been originally about 13 or 14 feet deep.

The find of the coin above referred to was rather a curious one; it was turned up at the first place where we commenced excavating, viz., at the principal entrance gate, and I thought we

had merely "to dig to find," but this proved to be the only relic.

I submitted it to Dr Anderson, Antiquarian Museum, Edinburgh, for his opinion. He said it was so defaced he could scarcely express an opinion, but from its size and general appearance he thought it might be of a period between the reigns of Charles I. and William and Mary. It would be interesting to know how that coin came there.

What surprises me in regard to this important fort is the absence of a rubbish-heap, or "kitchen midden." I have searched in vain for it, both by excavation, and by probing with an iron rod every eminence within such a radius, outside its principal trenches, as one might expect to find such a deposit, but invariably the pick or rod encountered solid rock. I cannot conceive that the place was inhabited, for the many long years indicated by the great labour bestowed upon its formation, without the inhabitants having chosen some spot to deposit their rubbish. Having failed to discover a "heap," I thought, as the ground at one side of the fort is very steep down to a burn, this place might have been used as a "shoot," but trenches cut at different points across the steep hill revealed nothing.

The ground being generally of a rocky nature, the soil is very shallow, and the bones of animals used as food would not be covered deep enough to preserve them from the destructive effects of the weather; the fort dwellers would, possibly, not be rich in pottery, and took good care not to break much of what they did possess; their fuel would consist, probably, entirely of wood and peat, and the ashes of such material would long ago be incorporated with the soil, and hence the absence at the present day of any vestiges of human occupation—of a domestic nature at least.

About half a mile to the north of Castle O'er house is another work of the same formation as the minor forts; it is marked in the Ordnance Survey maps as a fort, though, from its position, it is badly adapted for defensive purposes. Differing in position from the others, it lies in a hollow on a piece of flat ground, close to the river bank, so close that the river has reduced it from its original round form to a semi-circle, and it is commanded on its west side by a semi-circle of very steep ground, which must have rendered it subject to easy attack from that direction. Mr

Francis Lym, F.S.A., Galashiels, who has devoted many years of his life to the exploration of forts and trenches in the South of Scotland, and North of England, tells me that it is unique in his experience both as to its undefended position and to this peculiarity, that its floor is raised higher than the ground outside the inner trench. He suggests that it may have been used as an arena for athletic sports, the spectators looking on from the surrounding slopes. I was more inclined to accept the opinion, expressed to me by our friend Mr Barbour, that it might have been the Cemetery of the main fort, especially as a trench or hollow way leads directly from one to the other. On making excavations we found that the subsoil of the work is blue clay; upon this clay logs of wood have evidently been laid to form a floor; the logs themselves have decayed away, but the bark remains, and I scarcely think that layers of bark alone had been used, as it would have been too thin and yielding for such a purpose. On the top of this wooden floor is a superior one, formed with rough stones, laid with their flat side down, and at the present day about 18 inches of peat moss has accumulated above these floors. On a space quite 40 feet in diameter, in the centre of the work, we came upon a collection of rough stones, 18 inches thick, and below this, resting upon a layer of charred wood, mixed up with the clay, was a great quantity of minute fragments of bones, none of them being more than one inch in length, and these, undoubtedly, had been subjected to the action of fire. If these bones were human, I hoped that Mr Barbour's suggestion that this was the Cemetery, or "Crematorium," of the main fort might be corroborated, though it was not quite obvious why a Cemetery, or an arena for athletic games, should require strong earthworks for their protection. However, on submitting the bones to Professor Struthers, Royal College of Surgeons, Edinburgh, for his opinion, he said that without being able to declare positively that they were *not* human, he inclined to think they were those of some of the lower animals. I fear, therefore, in the face of such an opinion, the Crematorium theory must be abandoned, and the question still remains—what was it?

Besides the trenches immediately surrounding the main fort, and which are palpably for defensive purposes, there are others starting from them, and radiating over the greater part of the lands of Castle O'er, the use of which is not so obvious, unless

they were used solely as a means of communication between the forts. I have all my life noticed parts of these trenches, here and there, when out on the hills with my gun, but paid little heed to them, further than that they had evidently *something* to do with the forts, and that they made splendid shelter when stalking an old blackcock.

The few trenches I had before traced out encouraged me to go on, and becoming enthusiastic over my discovery, I set to work with a will all through the summer of 1896, and I was very much astonished at the result. Owing to my intimate acquaintance with the ground, I was able to lay down on the Ordnance Maps, in red ink, the result of each day's work as accurately as possible, without an actual survey. On running a wheelometer over the lines as laid down, I found they extended to the astonishing length of about 13 miles, and that considerably within an area of 2700 acres. Of the 20 forts in Eskdalemuir, eight are situated on my own lands of Castle O'er and Crurie. Two of these are rather outlying from the others, and I have failed to connect them with the remaining six, whose connection with each other is complete. At whatever part of the ground one enters a trench and walks along it, either to the right or left, he will find his way into one of the five minor, or into the main fort, as he chooses. They are all of the same type as the earthworks defending the forts, but are not so deep, and in many places, *e.g.*, when running through peat mosses or bog-ground, they are entirely filled up. These breaks are one of the difficulties in tracing them, but during the course of my work I noticed that where the trench had run, the vegetation along its line was of a different kind, or at least appeared of a different colour, from the other parts of the moss or bog. In bog-ground a growth of rushes very frequently reveals the line of the trench. In such places a sheep's footpath is almost invariably a good guide, as a searcher will discover that the sheep have found out, and have chosen for their road the hard top of one or other of the mounds. By following these indications across the soft ground, the trench will again be found at the other side, stretching away along the harder ground beyond. Another difficulty in tracing them is where they run along the steep side of a lea brae, or where loose stones abound; the continual spurring of sheep's feet on the upper side of the trench has rumbled down earth and stones into it, and

has gradually filled it up. These breaks, in the continuity of the trenches, added to my labour, and I am sure, in trying to find them, and then tracing them out, I walked three times 13 miles.

One trench on the ground deserves special mention. It is widely known as the "Deil's Jingle," probably "Dingle," a hollow between two hills or mounds. It is supposed to run across country all the way from the Solway Firth to the North Sea, and I quite conceive there may be some truth in this supposition; it runs through Castle O'er ground for close on five miles, and one of my men, in whom I have full reliance, traced it two miles further north from Castle O'er march fence. It runs almost due north and south for over a mile, when it inclines to the north-east, then, with a sharp bend, it runs straight north towards the Parish of Ettrick, in Selkirkshire.

I am strongly of opinion that it would be found to join that well-known work the "Catrail," which passes through Ettrick, close to Tushielaw.

There is much difference of opinion as to what these *long* trenches were used for, but as this is a controversial matter, I cannot enter into it at present. My own opinion is, that the Castle O'er group at least were used as hollow ways along which the fort dwellers could move to and fro the different forts without being seen by their enemies. But it is difficult to understand why, if used as roads, two of them are formed up and down exceedingly steep scaurs, which entails severe physical exertion on any one ascending, or even descending them, whereas, by a detour of a few hundred yards, an easier way could have been found.

Besides these forts and trenches in the Parish, there is the rectilinear camp at Raeburnfoot, which has been explored and fully described at a meeting of this Society; and another of the same form, still unexplored, within which is situated the graveyard of Watcarrick Chapel.

Then, there are the two important important stone circles on the Farm of Cote, known under the names of the "Girdle Stanes," and the "Loupin' Stanes," both laid down in the Ordnance Maps as "Druidical Circles." In passing, I may say that I understand the word "Druidical" is now withdrawn from these maps, as there is no evidence that the Druids had ever anything to do with them; they are now recorded as "Stone Circles."

Those I refer to are well-known, and have been already alluded to by Mr Dick. But there is one on the farm of Whitcastles, in the Parish of Hutton and Corrie, which, I believe, has never yet been recorded, and I think it is well that I should bring it to the notice of this Meeting.

I heard of it incidentally from one of the Sappers engaged in revising the old O.S. Maps; and I went at once to inspect it, and found it was a good example of such remains. It is situated close to the side of a path leading from Whitcastles to Cowburn, and is, I should say, about two or three hundred yards east from a stream called Boath's Burn. It consists to-day of nine large stones only, all prostrate, but from the irregular and at parts wide spacing, I think there may have been others removed; one certainly has been, as evidenced by the hollow in the ground where it had lain.

I made minute measurements of the circle and individual stones, the result of which is as follows:—

The two largest stones lie opposite to each other in a line due north and south, the one to the north is the larger, and measures 7 ft. 9 ins. by 5 ft. 5 ins. by 3 ft. 2 ins., the one to the south is 7 ft. 3 ins. by 3 ft. 5 ins. by 2 ft. 4 ins. The diameter of the circle from north to south is 141 ft. 6 ins., and from east to west 180 ft.

The dimensions of the other stones are:—

- 5 ft. 5 ins. by 3 ft. 6 ins. by 1 ft. 3 ins.
- 5 ft. 9 ins. by 3 ft. 0 ins. by 1 ft. 9 ins.
- 5 ft. 0 ins. by 3 ft. 0 ins. by 1 ft. 11 ins.
- 7 ft. 4 ins. by 2 ft. 6 ins. by 2 ft. 0 ins.
- 4 ft. 6 ins. by 3 ft. 2 ins. by 1 ft. 9 ins.
- 6 ft. 9 ins. by 6 ft. 3 ins. by 2 ft. 0 ins.
- 5 ft. 0 ins. by 4 ft. 0 ins. by 2 ft. 3 ins.

I produce a sample of the kind of stone used for the circle, and I need scarcely say it was chipped, not from one of the circle stones, but from a boulder of the same geological formation lying close by. It is extremely hard, and as these boulders have smooth surfaces, I had great difficulty in securing a specimen, with the only tool I had with me, viz., an ordinary carpenter's driving hammer.

Mr J. G. Goodchild, Curator of the Geological Survey Collections in the Museum of Science and Art, Edinburgh, tells me

that "the specimen agrees well with many of the masses connected with the granites of Galloway (see the Geological Survey Maps of the district). It might be called a fine grained diorite-granite."

On the motion of Mr Barbour, Mr Bell was awarded a very hearty vote of thanks for his paper.

10th May, 1901.

Rev. WM. ANDSON in the Chair.

Donations and Exchanges.—Transactions of the Edinburgh Geological Society. Transactions of the Cardiff Naturalists' Society.

A letter was read from Dr Maxwell Ross, one of the Joint Secretaries, resigning office on account of his being so much engrossed with official work. It was agreed to minute an expression of regret, and the Secretary (Mr Bertram McGowan) was instructed to convey the thanks of the Society to Dr Ross for his services in the past.

COMMUNICATIONS.

I.—"*Concerning the Market Cross.*" By Mr JAMES BARBOUR, F.S.A., Scot.

Notices relative to the proclamation, on 26th January last, of the accession of King Edward the Seventh, at Dumfries, bore that the proclamation would be made at the Market Cross of the burgh. No pillar in such form remains to mark the place, and open proclamation, formerly common, is now so infrequent that few of the inhabitants probably would recollect the scene of any former event of the kind. The centre of the town and market place, however, is so well impressed and marked with the outstanding and characteristic Midsteeple as to leave little doubt relative to the intended place of assembly. The ceremony, which was accompanied with desirable solemnity and hearty loyalty and respect, presented with the background of the Steeple, the

beautiful hand-wrought iron "ravel" showing to advantage, a scene impressive and picturesque such as probably few persons living have had the privilege of witnessing in the town. The proceedings on this occasion had the effect of rousing curiosity regarding the situation and form of the ancient Market Cross of the burgh; and the purpose of this paper is to submit such information on the subject as is readily available, and to stimulate further inquiry.

THE FISH CROSS.

Frequent reference is made in titles of property and other papers to the Cross of Dumfries; also the Fish Cross, in regard to which a word or two in passing may not be out of place. There is some reason for supposing that the Fish Cross stood at one time opposite the end of English Street, where the Fountain is now. A property in the Southergate is described in the titles, dated 1802, as being situated a little below the "Old Fish Cross," implying that the Cross was near the Southergate, and that a new Cross had by this time been erected at another place. Laterly, its site was a few yards south of the Midsteeple, at or near a well called "The Fish Cross Well," still existing under the street, and marked by a cross formed in the pavement. The Fish Cross is said to have been built about 1640. In 1662 the Council enacted that all red fish that come to the town shall be presented to the Fish Croce wholly undivided, under the pain of confiscation for the poor's use. On 9th October, 1738, a committee of the Town Council was appointed to visit and consider the condition of the Fish Croce, cause repair or rebuild the same in the shape it is now in, or in such other form as they shall think proper, and to cause erect a post yrin. for fixing a lamp. Its latest form is said to have been a large round stone table on which the fish were laid out and exposed for sale. It was finally removed in 1831. I am indebted to Miss Richardson, Shakespeare Street, for permission to exhibit a drawing of High Street, belonging to her. It shows a pillar over a table base, at the place where the Fish Cross stood. Although evidently the work of an amateur, the drawing, so far as the street and buildings are concerned, is fairly correct, but in regard to the Cross, the base appears hardly adapted to support the pillar or for the purpose of receiving the fish.

THE MARKET CROSS.

Returning to the main subject, the Market Cross of the burgh is alluded to generally, with those of other head burghs, in the old Scots Acts of Parliament in connection with royal and other proclamations. Frequently, also, it receives specific mention as the Market Cross of Dumfries; and locally, in the Town Council minutes and other papers, it is often referred to in connection with a variety of functions incidental to civic life in the burgh; but, although an outstanding and important institution in this way, the situation of it and the form do not appear from such references, but remain to be gathered elsewhere.

In old rental books of the Town Council are the following entries:

William Copland of Colleston—For his part of ye booths under ye Croce 0 - 13 - 4. For 2 foot of ground on the north end of the Croce allowed anno 1690 for enlarging the shops and for ane entry backward to the back of the shops, 0-2-0.

Alexander M'Gowan of Meikleknock—For his mid shop under the Cross, sometime his Mr John M'Gowan's, 0-13-4.

Alexander M'Gowan of Smithstown—For his part of the booth under the Cross 0-13-4. For 2 foot of ground on the south end of the Cross allowed anno 1690 for enlarging the shops and for an entry to the back shop, 0-2-0.

These entries refer to the block of flat-roofed buildings in the centre of High Street immediately north of the Midsteeple. A vacant space about 8 feet in width remained between this block and the Midsteeple, which was filled up some years ago by the Town Council erecting a small shop there.

The following is the description of the Cross contained in Edgar's MS. History of Dumfries, a copy of which is in the Society's library. Edgar was a writer in Dumfries, and likely to have seen the titles of the premises, and as he would be nearly twenty years of age when their rebuilding took place, in 1690, it may be presumed he had personal knowledge of the earlier form of the subjects described: "As to the Cross," he says, "it was before 1690 or 1691 an house about thirty feet in length, having to the front three shops, the floors a foot or two sunk under the street, and above the middle shop an arch of stone, and then on the back part a shop which entered in upon this stone floor, and

the roof to the extent of eight or ten feet above this back shop, had appended on both sides spars of timber and slated to nigh four feet of the causeway or street." Whether the roof was of simple saddleback form or one more ornate, such as the top of the Midsteeple, is perhaps not very certain; but otherwise the description is sufficiently clear, accords with the town's rental book, and leaves no doubt that this centre shop, arched with stone and having a second storey entering on the stone floor above, was at least the basement of the ancient Market Cross of Dumfries.

About the way in which the place came to the parties in possession Edgar makes the following statement: "There were," he says, "three sons of —. M·Gowan, minister of Mouswald, in the old Presbyterian time before 1660, whose father or themselves, for some trifle of money or small consideration, being probably in the Council, bought or wadsett the four shops. Their names were Thomas, Alexander, and Mr John. Thomas had the south shop, Alexander the north, and Mr John the mid shop and the back shop above the arch. Thomas being tutor or guardian for Margt., the daughter of Alexander and doer for Mr John, and himself being a wordley man, thought if he built up the Cross on both sides there would be two new shops on the back thereof, To that end petitioned the Admrs. that he might build up the Cross in a square building and cover the wings with lead above the north and south high shops, provided the town would grant him two feet of ground on each side to extend the building, which he obtained and performed," &c. This appears a somewhat extraordinary way of putting the matter, but it is little more than a reflex of the terms of the Council's minute relating to the grant of additional ground in the year 1690.

With permission of Mr Grierson, Town Clerk, I made search in the Council books of that year, and with difficulty discovered the minute, which is closely written in a small and peculiar hand not easily decipherable. It is conclusive of the situation of the Cross, affords substantial and reliable information regarding the curious position of parties' claims thereto, and is besides commendable as guarding with great care the town's interest. I conclude by giving the minute, which speaks for itself, in full:

"Convened within the Tolbuith of Drumfries Friday the twenty two day of Augt 1690 years William Craik provost" &c.

“The qlk day anent the suplication given in to the said Magistrates Common Counsall and Heritors Be Thomas M'Gowan, Merchant in Irving, makand mentione that qhairas the petitioner intends to cause cast down the walls on the north and southmost sides of the Mercat Cross of Drumfries not only for enlargement of the two shops under the same if (?) they would allow two foot of ground more on either syde yairof for yt effect But also that he may have ane shop above either of the said two laigh shops And is resolved to build the south syde betwixt and Michaelmas next and the north syde betwixt and the first of September yrafter, and to build the walls (?) with other work with a battlement on the top which he shall defend against wind and weather And to cover the roof with lead which will much more tend to the adornment of the place than to the petitioners advantage And shall be done and performed to the satisfaction and to the advyce and consent of the sd Magistrates and Counsall And therefor for his encouragement craving the allowance of two foot of ground on either syde yrof the north and south sides of the said Cross for enlargement of the two laigh shops and for building a high shop above either of them And also the libertie to build a stair to enter up to the two high shops at the west end of the fabric And to grant him an Charter thereof upon his own reasonable expense And is content to give such ane additional feu dutie therefore as they should be pleasit to impose T.Q. which being be the said Magistrates Counsall and Heritors considered they unanimously with and under the express provisions and reservations aftermentioned allow to the petitioner two foot of ground on either syde of the north and south sides of the Mercat Cross for enlarging the shops yrof reserving always the townes right and priority (?) to the said Cross and providing always that the fabric and decorment on either syde and Battlement on the top yrof be done and performed to the satisfaction of the Magistrates and Counsall And that the north and south sydes and Battlement yron be perfected betwixt and the two several tymes above mentioned And that the petitioner upphold the roof and maintains the battlement against wind and weather in the terms of the petitioner And reserving always power to the said Magistrates and Counsall to impose such a few dutie for the same in augmenting of the townes rentall as they shall think fit And further providing always that their prests. be noe homologatione of the M'Gowans nor of yr

predecessors and authors right to the said shops But that it shall be leesum to the town to quarrell impun reduce and imprecate the right and priorities yrof and that it shall be leesum to the petitioner and to Mr John M'Gowan his brother and Margt. M'Gowan his niece to defend the same as accords of the law and the entry to the high shops are to be made on the west end of the fabric. With and under which provisions and reservations their prests. are granted be the sd Magistrates Counsall and Heritors and accepted be ye sd petitioner and noe oyrways And appoint thir prests. to be recorded in the Counsalls books the provost and bailies for ymselves and in name of the Counsall and the petitioner for himself and his said brother and niece to sign these prests. And ordains extracts yrof to be given be the Clerk.

THOS. M'GOWNE.

WM. CRAIK.

JOHN IRVINE, bailie."

II.—“*Scottish Burghal Life in the 16th and 17th Centuries, illustrated by Extracts from Kirkeudbright Records.*” By Mr W. DICKIE, Merlewood, Maxwelltown.

I propose to place before you extracts from the earliest extant records of the Town Council of the royal burgh of Kirkeudbright. These are selected from a manuscript volume of minutes of proceedings covering the period from 1576 to 1682.

First I shall deal with the Constitution and Functions of the Council itself.

CONSTITUTION OF THE TOWN COUNCIL.

Even at a much more remote date than that with which we here start there had been a wonderful development of representative institutions in the towns of Scotland. The earliest existing charters to royal burghs, belonging to the eleventh and twelfth centuries, confer the right of electing councillors and magistrates upon the “hail communitie.” To this phrase Mr Cosmo Innes has attached the restricted interpretation—“the whole body of qualified burgesses;” but the popular franchise, whether it were as broad-based as the language of the charters indicates or narrowed to the circle of burgesses, was superseded in the fifteenth century by a system of nomination known as that of the close corporations. The change was brought about by Act

of Parliament; and the particular mode of appointment in use during the period with which we are concerned was regulated by an Act of the Convention of Burghs passed in the year 1552. That Act directs that the "auld Council" shall choose the new on the Wednesday before the feast of Michaelmas (29th September); that the two bodies shall meet jointly on the next Friday to choose leets of candidates for the various offices of Provost, Bailies, Treasurer, and Dean of Guild; and that on the Tuesday following Michaelmas, the old Council and its child, the new, shall again convene, having this time associated with them the Deacons of Crafts, to make the final election from the leets thus drawn up. In the case of Kirkcudbright, however, there were no Deacons of Crafts until 1681, when the trades were first incorporated.

The first of the Kirkcudbright minutes is of date 3d October, 1576, and is a record of "the chesing of the office men." This is the first: "The qlk day Robert M'Clellane is chosin dene for ane yeir, and sworne." Entries in identical terms follow with reference to other appointments in the order given, viz.:—

Herbert Gledstanis and Jon Meckill, bailies.

Thomas Andersoun, clerk.

Johnne Crauford and three other "officiaris."

Thomas M'Clellane of Bomby, Provost.

Johnne Gledstaines, thessaurar.

Thomas Cant, kirkmaster.

Then comes a list of the Council, which consists of the Provost, the two Bailies, and ten councillors. It will be observed that neither the Dean nor the Treasurer is of the Council. This first, "Thomas M'Lellen"—to use the spelling of the name adopted by himself—was afterwards knighted, and was the father of the first Lord Kirkcudbright. The castle which he built still stands in the town over which he ruled. Of the Bailies, Herbert Gledstanis sat in the Scottish Parliament as the burgh's representative. It would appear that the hon. member's education did not include the art of writing, for he was one of four members of the Convention of Burghs in 1582 who subscribed the Acts then passed "with our hands at the pen, led by Johnn Guthrie, notar, at oure command." The deficiency was one which he shared with the commissioner from the city of Glasgow.

OFFICIALS OF THE TOWN.

The Council seems to have possessed an ample establishment. In addition to the officials mentioned in the minute I have quoted, and the executioner, to be afterwards referred to, we have a record, first in 1600, of the appointment of a drummer and a piper. The former was to get £10 of fee "and his meit through the town," feeding apparently at the tables of the burgesses turn about. Whether he was expected to provide music for the feast with his drum does not appear. Those who had not houses were to pay him 3s 4d per day for his food; and any who refused were to be poided for double that sum. The piper was a functionary of older standing. In 1581 his remuneration was fixed at £5 per annum, but it seems to have increased. In 1600 it was stipulated that he was to receive "his dewtie usit and wont," and the drummer and he were to "pairt (or divide) the yule wages betwix them," this no doubt being some perquisite at the Christmas season. The "Kirkmaster" corresponded to some extent to our modern beadle. The "tounship" in 1578 ratified an act of the minister and elders directing that he was to be paid ijs for ilk marriage and xijd. for the baptisme of ilk substantious mann's bairn, vjd. for the simpl (simple, *i.e.*, common) folk; the kirkmaster fylland ane forme and buik to the brydgrum and bryd, and [certifying?] thairin to the solemnizatioun, and haifand ane besein and towell to the laptisme." At a later appointment it is minuted that the kirkmaster is to ring the church bell, and also to "ring the burriall bell throw the toun when nytboris [that is inhabitants] deceisses, and to mak the graiffes, for the qlk he sall haiff of ilk deceisset honest man vjs viijd." The Council also appointed a "knok-keeper," or keeper of the clock, and to one holder of the office of kirkmaster, who would seem to have been in the building trade, payments were made, under the title of "wardane," "for the mending and uphalding of the kirk and for the tolbuith mending." Then in 1598 the court was equipped with an official corresponding to our procurator-fiscal. In that year Robert Bell was elected "pr. for the common weill, and he to expone, delait [prosecute], and reassoun upoun all effairis tuching the weill of this burgh and commounis of the same."

THE COUNCIL'S RELATION TO CHURCH AND EDUCATION.

The Council had even more intimate relations with the

Church than those implied by the appointment of the beadle and the upholding of the fabric. In the year 1580, at the Michaelmas election, they appointed six "eldaris to the Kirk," to hold office for one year; but this appears to be a solitary entry of the kind. If they did not appoint the minister they regulated his income; in 1602 they stipulated to pay the Rev. Robert Glendingning £100 a year. And they did their best, according to their light, to secure him a congregation. An Act of the Council passed in 1596 imposed a penalty of forty pence on all persons who should "ban, sweir, curs, rail, or speik any evill or profane speichess contempeuselic, or flyte on the gait" (brawl on the street). It further directed that all the inhabitants should attend the Church services twice every Sabbath, "befoir and efter none," and should also "convene to the examinationis ilk day being advertissit," under a like penalty of forty pence for every absence. The "examinations" would be special diets fixed for the catechising of the flock by the minister; but there were regularly, in addition to the Sabbath services, two preachings on week days, Wednesdays and Fridays.

The Council also appointed the schoolmaster, and sometimes they conferred the office on the parish minister. Mr James Dodds was one of these reverend pluralists; and the Council and community, in whose name the appointment runs, undertook to pay him as schoolmaster a salary of twenty merks, with £3 additional for "chalmer mail," that is house rent, and he was to receive a quarterly fee of 12d "of ilk toun bairn that he leiris" (learns). A minute of slightly later date, and relating to the incumbency of a successor, shews that the recovery of the fees was sometimes a matter of difficulty. "And the toun bairnis to pay thair quarter feis afoir the terme, and gif they pey nocht within ten days efter the terme, the said James to expell thame furth of the scule." A successor in the ministry, Mr David Blythe, was also the schoolmaster, and it was stipulated that he should have under him "ane sufficient learnit doctor" as assistant. But the Council did not find the dual appointment satisfactory, and after a trial of sixteen months they discharged him "as schuill Mr, in respect they haid fund him insufficient to wait thairon, because of his office of ministrie and uthir effairis."

PAYMENT OF THE BAILIES—CUSTOMS OF WINE AND SALT.

The work of criminal jurisdiction appears to have been left to the bailies. The dispenser of justice was considered not unworthy of his hire, and that hire took a very curious form. The Provost, Bailies, Council, and "hail communitie," assembled on the 18th of April, 1594, did statute and ordain "that ilk bailie and the common clerk of the town shall have, now and in all tymes cuming, at ilk meltat, [*i.e.*, meal], viz., at dennar and supper, ane quart of wyne of ilk schip that cummis within this port with wyne, so lang as the schip is in leiffing thairof, conforme to auld use and wont." Following upon this we have orders of the court upon protesting shippers to deliver over to each Bailie and the town clerk two quarts of wine for each of four days occupied in discharging the cargo, and decisions that burgesses of the town as well as strangers are liable for the impost. The magistrates and burgh officers were also entitled by old custom to a duty in kind on imported salt and on victuals generally. This is incidentally disclosed in a minute of 5th October, 1597:

"The quhilk day the Provost, Bailies, Counsell, and communitie of the said burgh, understanding that the bailzeis of the said burgh and officiaris of the same are diminishit of ane pairt of the old custome salt, has thairfoir statute and ordaint that the balyeis present and to cum, ilk ane of thame, sal haif for thair fyall [salary] yeirlie the soum of v. lib. [£5]; and appointis and ordains the officiaris to haif eqly [equally] amangis them, of ilk persoun that beis chargit in the tolbuthe, iijs, iiijd. [3s 4d] for trubil or uther occasioun, for thair fyall. But [without] prejudice awayis [always] to the peck of victuall appoint for thame for ilk boit [boat] that cummis in with victuall."

This arrangement had not, however, been satisfactory, and a year later an attempt was made to put things on a better footing by making the hard-worked bailies a present of the fines—"unlaws" they are called—which were recovered, and in consideration of this they were to give up their £5 salary. The minute bears that they were to receive "the unlaws of all bluids, bluidwytes [terms descriptive of assault to the effusion of blood], unlaws of straikis [common assaults, I suppose], deforcements, disobedience of magistratis or officiaris in thair office, or injurious speichis to bailies or sik lik." This is a curious and comprehen-

sive catalogue; but it does not appear to cover all cases for which fines might be imposed; for example, it does not at least in set terms extend to the class of offences of which we have just read — cursing, railing, and “flyting on the gait.” At an earlier period (in 1584) the fines had been farmed out to William M’Ghie and Thomas Hall for £28.

Civil suits were disposed of in the burgh courts, frequently before an assize or jury. In one case, for example, concerning a charge of forestalling the burgh in purchasing a cargo of wine, it is recorded that “the Provost and Balyeis selectit the said former assysis, being unsuspect burgesses of the said burgh, to tak cognitioun and tryall thairanent.” The proceedings were conducted with considerable formality, there being references to written pleadings. One Hercules Hay, an innkeeper, figures as pursuer in several actions. One of them was decided in the manner which still obtains in regard to prescribed accounts. It was referred to the defender’s oath, “quha, being rypelie advysit thairwith,” made oath that she owed him nothing, “boit that it was all payit qlk sche ressavit; quhairfoir the judges absolvis hir simplicitir thairof.” Hercules was a man of substance and laird of Castle-dykes, which he had let on lease to a brother. He sued that brother’s widow for past due “maill,” or rent, of the land, and also for delivery of certain personal property of his deceased brother, which he claimed as “airschip.” It is curious to read in the inventory of the articles, along with a “pleuch, pleuch graith,” and measures and implements of various kinds, such an entry as this: “Item, ane cuntar burde carvit, with tabill and ches, pryce ten merks.” “Tabillis” is an ancient term for the game of draughts, and we have in the carved centre board, the “tabill,” and the chess the necessary provision for still popular forms of fireside recreation.

The magistrates felt themselves burdened with the number of suits brought before them, and as a check to frivolous litigation it was enacted (February, 1580) that every pursuer who lost an action (“tynis” is the expression used) should pay a penalty of eight shillings. They were, nevertheless, jealous lest their tribunal should be deserted in favour of a rival jurisdiction, and another of the Burgh Acts provided “that na persoun indwellar within this burgh mak ony complent to ony out toun maister [magistrate?] for ony caus or occasioun, or move them to seik

relief of the stranger [?]: but that they meine [*i.e.*, complain] thameselfis to the saidis Provost and Pailzies, the ordinar judges, ffor decisioun, and put order to qtsumever actioun, quarrell, or controversie thair fallis out betwix nychtbor and nychtbor; and duha deis in the contrair sall pay xl. lib. money of unlaw, tyne thair fredome, and be banishit the toun for evir."

BARBAROUS PUNISHMENTS.

Banishment from the town was a common form of punishment, and it was frequently accompanied by personal chastisement of a severe nature. Thus, on 17th February, 1588, John M'Come was sentenced to be "scurgit throw the toun and brunt on the schouder, and thairefter banishit the toun for evir," for "sundrie crymes and innormeteis," which are not particularly specified. At the same sitting of the court four women—Jonet M'Burnie, Kate M'Morrane, May Forsythe, and Jonet M'Lene—for "sundrie abhominabill crymes and evill deidis, qlkis wer notour and sufficientlie provin," were ordered to remove themselves out of the town "the morne, in the morning, with bag and baggage; and gif they failzie thairin, the saidis judges ordains thame, and ilk ane of thame, to be apprehendit and tane, and thaireftir the said day to be scurgit and brunt on thair schouderis, as was practeisit on Johnne M'Come, but partialitie." In the same month another person was sentenced to be banished from the town "in respect of diverss his evill doings, leiding ane ill lyfe and conversatioun." In March, 1600, the Council enacted that breakers of the seventh commandment who were not able to pay the penalties imposed for their trespass were to have their heads "torkit" at the market cross on a market day, and were thereafter to be banished the town. Torking was a species of torture of the nature of pinching or puncturing.

TRADE IN WINE--INTERCOURSE WITH FRANCE.

In glancing at the trade of the burgh, one is surprised at the extent to which wine figures in it. This, of course, is due to the fact that Kirkcudbright was a port, and there was a good deal of intercourse with France and other parts of the continent. The frequency of this intercourse is illustrated by an agreement embodied in a record of the burgh court of the year 1581. John M'Cuffie, burgess of Kirkcudbright, and Thomas Masonn, burgess

of Ayr, "Scottismen," thereby acknowledged to have received a certain quantity of wine from Anthony Sympsoun, merchant in Dieppe, who is termed a "Frenchman," but whose name suggests recent naturalisation, and they oblige themselves or their heirs to pay the price to him at Rochelle or Bordeaux, or in any other part of France where they might happen to meet him or any person having power to act on his behalf, before the Fastern's Eve next ensuing. This same Masonn and another burghess of Kirkcudbright consent to decree passing against them in the burgh court for a sum of about £2900 as the value of a cargo of wine and salt brought in a Dundee ship. We have references to trade with "the Isles," or Hebrides, from which salt was brought, and to the arrival of a ship "of Pittenweme" laden part with wine and part with iron.

A "FORESTALLER."

It was one of the privileges of the corporation of a burgh that it had a right of pre-emption on all goods brought to the market. To infringe this right was to forestall the town, and forestallers were sharply dealt with, as one Robert Edgar, a burghess of Dumfries, found to his cost. A cargo of wine had been brought to the port by Henry Osborne, a burghess of Ayr, and he offered it to the magistrates on behalf of the town at £90 per tun. It was refused at that figure, and the bargain seems to have hung fire. The vendor had apparently considered it "off" altogether, for he sold the wine to Edgar. Thereupon the magistrates proceeded against the purchaser as a forestaller. They offered to let him off easily by paying him whatever figure he had promised to buy at. But Edgar would not forego his bargain. He had reason to repent his obstinacy, for the charge against him was brought to trial before the magistrates and an assize of "unsuspect burghesses," who found him guilty; and the court declared the wine to be "confiscat and escheatit to our soverane lord's behove and thairis;" in what proportion is not stated, but it may be presumed that the town retained at least the lion's share of the prize.

FIXING THE PRICE OF WINE, BREAD, CANDLES, AND ALE—PERIODS OF SCARCITY.

In harmony with the spirit which animated the national legislature of the period, the Magistrates and Council inter-

meddled in many matters which are now recognised as falling properly within the sphere of private enterprise and individual judgment. To fix the price of commodities was regarded as one of their ordinary duties. In 1582, for example, they directed that no Bordeaux wine was to be sold dearer than 3s 6d the pint, under pain of confiscation of the hogshead. "The assize of bread" was a regular institution in burghs; and in various minutes we find the price of an article variously styled "the caik" and "the quarter caik" fixed at eightpence. Occasional reference is made also to "the candill," which in two years is to be sold at 2s 8d per pound. The figures, of course, refer to the Scotch coinage.

But the most regular entry of this nature has reference to the "assize of ale." It was the custom in the month of October, when it had been ascertained what the nature of the harvest was, to fix the figure at which the ale, brewed from the oats grown in the district, should be sold during the succeeding twelve months. I quote in full a quaint minute on this subject. It relates to the year 1578.

"The qlk day the Provost, Bailzeis, Counsall, and communitie, haiffand considerit the fertilitie of the ground this instant cropt and the cornis being weill collectit and gadderit, be ressum of the gude harvist (thanks unto the Lord), haiffand also herd be report of utheris that nocht onlie this countrie but all the countries within this realme, and utheris without the same, also adjacent thereto, hes in lykeways prosperitie and welth of the saidis cornis: quhair-by it apperis to thame na derth is like to be this instant yeir, and also herand tell that the aill is sauld in Dumfreiss for four penneis the pynt: Ffynds thairfoir that the aill may be sauld for iiijd. [fourpence] the pynt within this burgh, gude and sufficient: Thairfoir statutes and ordains that no oistlair within this burgh sell aill derar nor the said pryce for ane yeir, under the pane of xxs. [20s] for the first falt, and the nixt falt doubland, and the third falt tripland, and taking out also of the rest of the aill to the mercat croce, and to be delt thair to the pure [poor]: Provyding that it sal be lesum [lawful] to the saidis oistlaris to tak vd [fivepence] for ilk pynt qll [till] Setturday at evin nixt is: and ordains the Deane to pas with diligence to the countrie and put siklyke ordeir to the oistlaris therein."

The thankfulness expressed for the abundant harvest and the

safe in-gathering may in this connection raise a smile. But we must bear in mind that the state of the corn crops was at that period a matter of the most vital concern to the whole community. Deficiency meant not simply the possible inconvenience of a slight rise in price; but, if the shortcoming were serious, it involved literal famine. There was no potato crop on which to fall back; foreign countries could not redress the balance by sending of their surplus; and the means of internal communication were so limited and slow that a supply would be obtained with difficulty even from other parts of our own country which might have been less affected by an adverse season. In these circumstances periods of scarcity, more or less general, were of frequent occurrence in both Scotland and England. No wonder, then, if the community were devoutly thankful that for one year at least they were free from fear of dearth.

This was the last of a series of fat years. In 1579 the lean cycle began with a rise to sixpence. By 1595 the price had trebled, the pint then selling at twelvepence. Scarcity and high prices, operating on human cupidity, had the usual effect of leading those who had supplies to hold them back in the hope of reaping still larger profit from the greater extremity of the community. Penalty clauses were inserted in the annual Ale Act to check this practice. The minute of 1559, for example, directs that "na oistlar reteine aill in their huss abone ane galloun, but sell the same to all nyctboris, gude and sufficiem, under the same pane [£5], deiling of the aill at the croce [giving it away, that is, to the populace], and discharging [that is, forbidding them] of forther brewing." Those years of distress synchronise with a similar experience throughout the country. The year 1597 in particular is emphatically characterised by Professor Thorold Rogers, in his valuable book on "Work and Wages," as one of "fearful famine" throughout England; and the following year was remarkable in Scotland for the general blighting of the crops.

FREQUENT OCCURRENCE OF "THE PEST."

A terrible accompaniment of recurring famines was "the pest," or plague. There was in the burgh an hospital known as "the Pest-house." We find the Council on the alert to prevent the introduction of the malady from other places. On 22nd

January, 1577—or, according to our present calendar, January, 1578, for the legal year was then reckoned from 25th March—order is made that “nane within the burgh travell nor trafik in Ingland, nor on the bordouris thairof, for the pestis causs [because of the pest], qlk is in the saidis bordouris, under the pane of tinsall of thair fredome; and that nane reset ony travellaris out of Ingland, nor bordouris thairof, without ane sufficient testimoniall, under the pane of ten pundis.”

In 1585 Kirkcudbright itself had been visited, On the 9th of March, 1586 (1585 according to the reckoning of the period), the Council made arrangements for payment of fees due to “the clengeris,” these being persons employed to use means for the recovery of those afflicted with the plague. The town lands of the Borelands and Millflat were then let out to the burgesses in “skairs” or small plots; and in order to raise the necessary money the Council directed that each holder of these lands was to pay two years’ rent in advance. They were more peremptory in their demand than a modern Chancellor of the Exchequer, for they enacted that the money should be paid over to the collector “betwixt and the morne at evin,” under pain of their skairs being declared “vacant and in the toun’s hands.” In October of the same year the Council voted an honorarium of five merks to “Jouet Mertene,” for “certane plesirrs and guid service done” by her “the tyme of the pest, and for hir help.”

Some years later the Council were in dread of a return of the pestilence, which had broken out in a neighbouring town. They cut off all intercourse with the afflicted place, and turned the whole householders into a body of watchmen to see that the cordon was not broken. These precautionary measures are set forth in these terms, under the date 20th April, 1599 :

“Understanding the pest being now ill in Drumfreis, and willing na resorting or trafik be betwix the said tounis for feir thairof, statutis and ordains that the hail inhabitants within this burgh that reasis reik thairin [a graphic expression designating a householder—the possessor of a hearth] wache in thair awin persoun, or ellis ane als [as] sufficient in thair steid, at the sicht of the Bailleis, under the pane of xls. ilk fault and tynsall of their fredome; and that nane hant or gang to Drumfreis, or benethe the watter of Ur, or reset ony benethe said water, under the said pane, without consent of the Bailleis.”

"WATCH AND WARD"—A FEAR OF INVASION.

In another minute dealing with the duty of "watch and ward" we seem to hear an echo of the fears of Spanish invasion which haunted the country even after the days of the Armada, while Scotland was distracted by the intrigues of noble factions. It is of date the day before Christmas, 1595, and it made order that watch was to be kept nightly by six armed persons to be chosen for that purpose by the bailies. Negligent watchmen were to be punished "in the stokis or gorgattis;" and their "puttar furthe" (the person, we presume, who had sent a negligent substitute) was to pay a fine of forty shillings. And "in case of ony tumoult or uproar in the toun, ilk persoun to be in reddiness, at ane schout or clink of the comoun bell, to ryss and cum to the gait boidint with wapponis, under the pane of tynsall of thair fredome and banishment of the toun for evir, and also under the pane of ten pund of unlaw."

AMUSEMENTS.

We have already seen that the worthy burgesses of the sixteenth century relaxed themselves indoors with draughts or chess. Of the fondness of the young men for athletics we have incidental evidence in several of the minutes. In 1597 the grass of the Friars' Kirkyard—that is the burial ground of the old church that stood where the castle now is—was let to Thomas Hall on a nineteen years' lease, subject to these conditions, among others: that he was to build and maintain a dyke around it, but was to leave a style and door, which should be "patent" all day, but locked at night, "and it sal be lesum to the toun and young men thairof, to big buttis thairin and use archerie, and to repair and gang thairintill, as they haif occasioun: secludane [excluding] all players of futeball, cache-kyllis, and uthir games out of it, bot allanerlie [only] the buttis." "Cache-kyllis" may be a local term for a primitive form of lawn tennis, which in old Scotch was termed cache-pole or catch-pule. Archery butts or targets seem to have been provided elsewhere; for in February, 1579, a disposition was granted to Robert Hall, burgess, of certain common land "beneth the toun and at the buttis." The churchyard seems to have been a popular resort for purposes of recreation. In an earlier minute (of 1580) we find a prohibition against the playing of "keich-ball upon the Freir Kirk, for demolishing the sklait thairof."

EARLY CLOSING OF ALE-HOUSES.

The civic rulers of those early days were alive to the importance of regulating the business of the ale-house keeper in other ways than fixing the price of his goods. It was an offence to be drinking in such a house "after ten horis at evin," and the penalty fell not on the keeper of the house but on his customers.

FORBIDDING USE OF BUTCHER-MEAT.

A curious enactment of a sumptuary character appears, with variations, in minutes of 1580, 1589, and 1595. Its purport is to forbid the eating of butcher-meat either on Friday or Saturday. "Oistlars," as the innkeepers are termed, are forbidden to "roist or seith" flesh on either of these days, and the owner of a house in which any is used is to be fined five merks. One of the minutes bears that the purpose of the prohibition is for the "down-putting of dearthe." An Act of the Scottish Parliament of earlier date (1567) had forbidden the eating of flesh on three of the days of the week, for the vaguely expressed reason that "it is great hurt to the common weill of this realm, the indifferent and dayly eating of fleshe within the same."

THE BURNING OF A WITCH.

A superstitious belief in witchcraft possessed all classes of the people during the period over which this period extends. I have found no trace in the minute book of the cruel persecutions to which it gave rise. But there is extant an account of the Burgh Treasurer of Kirkcudbright for the year ended at Michaelmas, 1698, which throws a lurid light on this dark page of history. It contains a long list of items referring to the execution of a poor woman, Elspeth M'Ewen, belonging to Dalry, against whom the Kirk-Session of that parish instituted a prosecution on the accusation that she possessed and exercised the power of the evil eye. A special commission was issued to the Steward-Depute and various lay commissioners to try her, with a jury, at Kirkcudbright; and on their sentence, confirmed by the Privy Council, she was given to the flames. We seem to hear them crackling and to see the tortured flesh shrinking as we read such callous entries as these :

Item for peits to burn Elspeth wt.	...	...	...	...	j	0	0
Item for twa pecks of colls ...	...	...	...	...	0	16	0

Item for towes [ropes to tie the poor creature to the stakes], small and great	...	...	...	...	...	...	0	4	0
Item for ane tar barle to Andrew Aitken	...	...	...	...	...	...	j	4	0
Item to Hugh Anderson for carrying of the peits and colls	...	...	...	...	...	...	0	6	0
Item to William Kirk [the executioner] qn she was burning, ane pint of aill	...	...	...	...	...	...	0	2	0
Item payed to Robert Creighton, conform to precept, viz. :— eight shillings Scots for beating the drum at Elspet M'Queen's funerall, and to James Carson, his wife, threeteen shillings drunken by Elspet's executioner, at seall times	...	...	...	...	...	...	j	j	0

The executioner was on the regular staff of burgh officials, and in receipt of a weekly allowance; but in his old age he had eked it out with the seeking of alms, and the tragedy just recorded by attaching increased odium to his office seems to have cut off supplies. In a pitiful petition to the Council he represented that when he went to the country the people bade him go home to the town "and cast stanes at me," and to relieve his indigent condition the Council made him a special grant of six shillings Scots.

III.—"The Etymology of the Word Ruthwell." By E. J. CHINNOCK, LL D., London.

I was deeply interested in reading the paper on Dr George Archibald's sketch of Dumfries in the seventeenth century by my lamented friend, the late Dr James Macdonald, in whose death Scotland lost one of her best antiquarian scholars. The old Dumfries physician in his "Account" gives two derivations of the name Ruthwell, upon which a discussion arose among the members of the Society present at the meeting at which it was read. I hope it will not be thought presumptuous on my part if I continue this discussion, with the desire of throwing some light upon the subject. There are six derivations assigned to the word, as far as I can gather, two of which are manifestly absurd, and therefore ought to be at once discarded. Let us take them in order:—I. The first is that which the worthy Archibald assigns, and which I have never before seen—*Ruthae vallum*, "Ruth's wall" He says that the Saxons erected it as a rampart, and that they never advanced further than this point in Scotland. This derivation and statement is so childish in its simplicity and ignorance that it is not worthy

of a minute's notice. Who was Ruth? Evidently a female, from the declension of the name, and doubtless the apocryphal person called also St. Ruth. History evidently was not Dr Archibald's forte, or he would have known that the sixth kingdom of the Saxon Heptarchy, called Northumbria, extended as far north as Fife including Dumfriesshire and a part of Galloway, and that Edinburgh was founded by the greatest of the Northumbrian kings, Edwin, to be the northern capital of his kingdom, as York was the southern. Lowland Scotch is simply the old Northumbrian dialect of the English language, as modern English is derived from the Mercian or Midland English. II. The second derivation, dear to those ignorant of philology, is *St. Ruth's Well*. It is always stated that this explanation of the words is due to Bishop Gibson, of London, in his edition of Camden's *Britannia*, published in 1695. He speaks of the church of Ruthwell, calling it *St. Ruth's church*. The worthy bishop was evidently only giving the local derivation, for we find Dr Archibald, in his "Account," speaking of "St. Ruth's Church, called *Ruthwell*." Archibald, it seems, knew nothing of *Ruthwell*. We may conclude, I think, from this that in his time it was called *Ruthwald* and not *Ruthwell*. So far as I can learn there is absolutely nothing to connect Ruthwell with St. Ruth, except that *Ruth* is the first syllable of *Ruthwell*. Men of the critical acumen of Messrs Barbour and Cairns may well express doubt of these two origins of the name. III. The third derivation is that assigned by our learned president, Sir Herbert Maxwell—the *Rood-well*. There is at Ruthwell a celebrated Cross, and there is the well-known *Well* in the parish. The obvious inference, then, is that the name of the parish is derived from the cross and the well. If nothing better can be found this ingenious explanation must be accepted. But the practised philologist puts it aside as too simple and evidently a concoction. The settlement of the question requires research into the old English, Gaelic, and Norse languages from which our place-names are derived. IV. Chalmers in his "Caledonia" gives the derivation *ruth*, a rivulet, and well a corruption of *wald*, which is our modern *weald* or *wold*, a wood. He says there is a *rith* or rivulet in the parish. I know not whether this is so or not. But I am certain that so very common a thing as a rivulet in a parish would not give its name to that parish. I think, however, he was right in his statement that *well*

is a corruption of *wald*. The four foregoing derivations of the name, I think, must be pronounced fallacious and futile. I believe the real origin of the word will be found in one of the succeeding conjectures, my preference being given to the last, which I believe to be my own, founded on the labours of others. V. The name *Ruthwell* first appears in a charter of date 1605. In the 17th and 18th centuries the name varied between *Ruthwald*, *Ruthwall*, *Ruthwell*. I was informed by my friend, Mr A. L. Davidson, last year that a native has, even at the present time, his cart labelled *Ruthwald*. It is pronounced locally, as Dr Ross pointed out, *Rivvell*. Indeed, in the early charters of the Murray family, to whom the Parish belonged, I believe, the name of the Parish appears as *Ryval*, *Rivel*, or *Revel*, evidently the local pronunciation of the name. As I am ignorant of Gaelic, I applied to my friend, Dr H. C. Gillies of Hampstead, the author of a Gaelic grammar, and one of the leading members of the Gaelic Society of London, to see if he could throw any light upon the subject. He wrote:—"I find that there is a *spa* some little distance from the village, and this would prejudice in favour of a *well*. Why *Ruthwell*? There is room for a Gaelic suspicion, if it is a chalybeate or iron well. This would make it the *red*, *ruddy* from *ruadh* (Gaelic) *rhudd* (Welsh), pronounced *ryth* or *rith*. The Welsh form would explain *Ryval*, its old name. But this old name throws doubt upon the *well* idea, and rather tends towards the *vald* or *wald* form, which appears in *Mouswald* and *Torthorwald* in the same dale. In fact the form *Ruthwald* appears to have been up till lately in use. There is distinct proof of the Norsemen in Annandale, and the older forms have a suspiciously Norse look about them. In fact the *Tinwald*, *Torthorwald*, *Mouswald* almost push us on to a *Ruthwald*. In that case the origin must be sought in Norse." The fifth derivation then is *Ruth-well*, the *Redwell*. I believe, however, that Chalmers and Dr Gillies are right, and that the second syllable *well* is only a corruption of *wald*. VI. I beg to submit to the judgment of the Society my own conclusion, which is that the words means the *Redwold*. The corruption of *wald* to *well* through *wall* (see Archibald's "Account" and consider the form *Ryval*) is a very natural and easy one. The other corruption of *well* into *wald* is unnatural and difficult, and would be rejected by all philologists. The word may be derived from the Norse, as Messrs Cairns and Gillies suggest, or from the

Anglo-Saxon. We know that the Norsemen did settle in Dumfriesshire, and on the banks of the Solway, and there are several traces of them still existing in local names and customs. *Ruth* is allied to the Gaelic *rìadh*, Welsh *ruddh*, Anglo-Saxon *read* (red) and *rudu* (redness), German *roth*, Dutch *rood*, Danish and Swedish (derived from the Norse) *rod*. *Wald* is a good old Anglo-Saxon and Norse word meaning a *wood*. The German still has *wald*, and the English has *wold* and *weald*. How could the district have obtained the name of the Red-wood or Ruth-wald? In those early times pine woods prevailed throughout that part of the county. The Scotch fir or *red* pine predominated. I think we may discover the origin of the name from this fact. The place was known as the Red-pine Wood. I submit this conjecture to the judgment of philologists for what it is worth.

Botanical Notes for 1899. By JAMES M'ANDREW, Assoc. of Edin. Bot. Soc., New-Galloway.

I much regret that my botanical notes for 1899 are even more meagre than those for 1898. This year my new records are almost *nil*. In last July I spent a fortnight in Kirkcolm parish, north of Stranraer, in the expectation of perhaps finding a few Ayrshire plants likely to be carried across the entrance of Loch Ryan, but in this I was disappointed. In fact, except along the shore on both sides of Corsewall Lighthouse, the parish of Kirkcolm is not productive of wild plants, being too agricultural for a botanist's purpose. The only new record I have to give for Wigtownshire this year is *Scirpus Tabernamontani*, Gml., which I found in two lagoons on the shore opposite Kirkcolm village. For the sake, however, of future reference and guidance, I shall mention some of the rarer Wigtownshire plants I saw in Kirkcolm and Leswalt. Round Kirkcolm village and the neighbouring shore I saw *Bromus sterilis*, Linn., *Rumex alpinus*, Linn. (Monk's rhubarb), *Carduus tenuiflorus*, Curt., *Ranunculus sceleratus*, Linn., and *Bulbosus*, Linn., *Ballota nigra*, Linn. (an outcast), *Hyoscyamus niger*, Linn. (henbane), *Equisetum maximum*, Lam., *Ruppia rostellata*, Koch (in lagoons on the shore), and *Catabrosa aquatica*, Beauv. (in ditches near the shore). The only rare plant

I noticed in Corsewall grounds was the grass *Calamagrostis epigeios*, Roth, which grows at the north end of the wood in plenty. I have already recorded it from two stations near Portpatrick. The lichen *Endocarpon minutum* was very plentiful on the rocks along the edge of the wood. From Corsewall Light-house eastwards are found the common littoral plants. *Ligusticum scoticum*, Linn., was in plenty, but the rarest plant I saw on that shore was *Sedum roseum*, Scop. (roseroot), found in two places. The only other station I know in Wigtownshire for this hill plant is at the mouth of the Craigoch Burn, Portpatrick. The Hepatic, *Riccia glaucescens*, Carr, was seen here in abundance. *Orchis latifolia*, Linn., *Sagina nodosa*, Fenzl., *Avena pubescens*, Huds., *Radiola linoides*, Roth, *Pulicaria dysenterica*, Gærtn., &c., were other uncommon plants along this shore. In Dally Bay, on the west shore, the two best plants seen were *Catabrosa aquatica*, Beauv., in abundance, and *Geranium pratense*, Linn., in fair quantity. With the exception of some plants of this *Geranium* in Galloway House grounds, found by the Rev. James Gorrie, Sorbie, the only other station I know for it in Wigtownshire, and there only as a single plant, is at High Drummore. It may be incidentally mentioned that *Geranium sylvaticum*, Linn., has not yet been recorded for Wigtownshire. About Moffat, for example, both species are very common. In Aldouran Glen and about Lochnaw I saw abundance of *Stellaria nemorum*, Linn., recorded by Mr G. C. Druce, as also *Melica uniflora*, Retz., and *Phegopteris polypodioides*, Fée (beech fern). These I did not notice on a former visit to Lochnaw. I may mention that the other Melic grass, *Melica nutans*, Linn., has not yet been recorded for Wigtownshire. *Galium mollugo*, Linn., grows in several places near Leswalt.

KIRKCUDBRIGHTSHIRE.

I found *Luzula albida*, as an escape or an outcast in the woods of Corsock House. The moss *Thuidium delicatulum*, Mitt., I found this summer in Glenlee Glen and other places, and very probably it is quite common. Now that attention has been directed to this moss, it has turned up in many districts of England and Scotland.

In conclusion, I may refer to the excellent discovery last summer of the Northern Holy Grass, *Hierochloe borealis*, R. & S.,

on the Rerrick shore, by Miss Mittelbach, Orroland, determined by the Rev. G. M'Conachie, Rerrick Manse, and confirmed by Professor Balfour, Edinburgh University. Mr Arthur Bennett, Croydon, has a note on this grass in the October "Annals of Scottish Natural History."

FIELD MEETINGS.

12th June, 1901.—Glencairn.

The first field meeting for the season of the Society took place on Saturday, June 12, 1901, and proved to be one of the pleasantest and most interesting in its recent annals. The excursion was to the lower end of the parish of Glencairn, where the party inspected the British camp at Snade, and were during the afternoon the guests of Mrs Martin of Dardarroch and her family; and the return drive was made by way of Lag Glen, with passing calls at Brockhillstone and the ruined tower of Lag. Brilliant sunshine favoured the outing. Passing the Druidical circle in Holywood, it was compared with the drawing given by Grose, of date 1789, and the absence was remarked of the twelfth stone shewn in the picture. At Dunscore Dr Martin, of Holywood, who had arranged the programme of the day, took up the role of guide. Quitting the high road and crossing the Cairn by the foot-bridge, near a marshy spot where the curlews seem to nest, the company proceeded first to the site of the old castle or baronial residence near the farm-house of Snade, which is indicated by some foundation remains and more tangibly by a grove of ancient yew trees, a couple of which were measured and found to be ten feet in girth at a height of three feet from the ground. The yews have pretty well encircled the house, except on the northern side, and part of them are planted in a double row, so as to form an avenue by which the main entrance would be approached. In the year 1665, or at a slightly earlier date, the barony of Snade was divided, half of it going to swell the possessions of John Laurie of Maxwelton. The other half, on which the baronial residence had stood, would seem to have been acquired by Walter Riddel of Minto, a member of an old Roxburghshire family, who impressed upon the property his own name by styling it Glenriddel. The son of this John Laurie was Sir Robert, the first baronet of the Maxwelton line, who figures in history as one of

the persecuting group of Dumfriesshire lairds, but of whom a more fragrant memory survives as the father of Annie Laurie of the song. Her mother was a Riddel—daughter of this Walter of Minto and Glenriddel. A later memorable conjunction of the families occurred when Captain Robert Riddel, at his house of Friars' Carse, engaged in a bacchanalian contest for the "Whistle" with his relatives, Sir Robert Laurie and Fergusson of Craigdarroch. In the interval two members of the family had figured on opposing sides in the Jacobite rising. The Rev. Simon Riddel, minister of Tynron, led a party of his parishioners in the Royalist army at Sheriffmuir. His relative and family chief, Riddel of Glenriddel, supported the luckless Stewart cause, and was one of the fourteen hundred prisoners taken at Preston. The Captain Riddel of the Burns period and of the whistle contest was the last of the family who owned Glenriddel. It was sold in 1792, two years before his death; and Friars' Carse, where he had lived, was put in the market by his testamentary trustees. His younger brother, Walter Riddel of Woodley Park (Goldielea), an equally intimate friend of the poet's, is represented in the government of the country at the present day by a great-grandson, Mr G. D. A. Fleetwood Wilson, C.B., assistant under-secretary of the War Department.

On the farm of Snade, and lying nearer to the river, between the farmhouse and that of Boreland, is one of the most perfect examples of a British camp to be found in the district. The double earthen rampart and two ditches are wonderfully entire, and enclose a large circular space upwards of a hundred feet in diameter, forming a saucer-like depression within these lines of defence. The total area extends to 1,608 acres. Seedling oaks grow profusely in the neighbourhood, and the camp is covered by young wood of that species and birch and hazel, which has no doubt contributed to its preservation.

Dardarroch was reached shortly before two o'clock. Here a most hospitable welcome awaited the party. They were received by Mrs Martin, with whom were her daughter, Miss Martin; her sons, Mr Robert Martin, Mr Samuel Martin, W.S., Mr Henry Martin (lately returned from service in South Africa with Lord Strathcona's Horse), and Dr Martin—and Miss Hair of Fleuchlarg. Luncheon was dispensed on the lawn, under the shade of a fine copper beech and other trees. Then an adjourn-

ment was made to the house, where a wealth of interesting objects claimed attention. There is a very complete and finely-mounted collection of native birds, with a few rarer visitants—including the Pied Fly-Catcher and the American White-Winged Cross-bill; among many other specimens, the Night-Jar; the King Fisher; the Water Rail, Tufted Duck, the Goosander, which frequents the valley in large numbers; and a few birds shot further afield, one being a fine Capercaillie, from Perthshire, which weighed 11 lbs. The family possess an extensive tract of cattle ranching and timber land in Manitoba, and in the rigorous north of Canada they have had good opportunities for indulging at once a sportsmanlike instinct and a taste for natural history. Quite recently Mr Henry had undertaken a long canoe expedition up the Great Slave Lake, to the remote stations of the Hudson Bay Company, in connection with reported discoveries of gold, which, however, turned out to be disappointing. Among the trophies of the chase which adorn the walls are two magnificent heads of the Moose, with its great flat horns; masks of the large and fierce Timber Wolf from Alberta and of the smaller fox-like Prairie Wolf; such notable birds of the colony as the Snowy Owl, the Eagle Owl, the Goshawk; and hoof of the Cariboo. There is also in the collection a fossilised tine of the antler of the Wapiti Deer, from the Rocky Mountains. Collections of butterflies and moths, both British and Canadian, and samples of West African avifauna further enhance the interest of the museum; and there are in it not a few objects of antiquarian interest. One of these is a piece of oak carved with the date 1689 and the initials "D M" "I K," being those of David Martin of Braco and his wife, Jeane Kar. David was a stout old Covenanter, who fought at Bothwell Brig, and, having the good fortune to escape unhurt, remained in hiding in the moors and mountains until the Revolution. He had possessed some skill of handicraft, and himself carved this heirloom. Of more recent interest were one of the 1-lb. shells of the Vickers-Maxim, the "Pom-Pom" of the Boer campaign, which has had such a disturbing effect on the troops, and a set of the last coinage of the Transvaal, both gold and silver, with the image and super-scription of Paul Kruger. Into the outer wall of Dardarroch House are built several carved stones that have come from an older building. One of these bears the arms of the Cunninghams, Earls of Glencairn, the Y-shaped shakefork, and the initials "I C."

From the fields above the house a very fine prospect was obtained, along the valley of the Cairn and the encircling Stewartry hills, and down the Lagg Glen, and there was noted a great stone cairn, partly demolished, which is understood to mark an ancient place of burial. In one of the lower fields is a giant oak embedded in the earth, where it had fallen ages ago.

A short business meeting was held at Dardarroch, when Mr John Houston of Brownrigg, Dr Semple, science master of Dumfries Academy, and Mr Waddell, headmaster of Loreburn Street School, were admitted as members of the society. Tea was then handed round on the lawn, and Mr Barbour, architect, vice-president of the society, expressed to Mrs Martin and the members of her family the great indebtedness of the members for their kind invitation and generous hospitality and for the opportunity afforded them of seeing the varied and extremely interesting collections.

On the return drive a halt was made at Brockhillstone in order to examine a large boulder from which the farm presumably takes its name. It is of coarse porphyry, and was computed to weigh fifteen tons. The most natural hypothesis is that it was dropped from an iceberg which helped to furrow the valley in the glacial age. The origin of the name is more puzzling. The locally accepted explanation is that the little hill on the side of which it rests was a generation or more ago infested by badgers, or "brocks," and came to be known as the brocks' hill. In a cottage garden on the farm is a wonderful little fernery, comprising a number of rare varieties, all of healthy growth, and adorned with numerous querns and a quaint sun-dial face, dated 1680, and having on it the initials "I W," "M F." Both the ferns and the antiquities represent the gathering of the late Mr Andrew Laurie, builder, a man of cultivated taste.

A brief inspection was made of the scanty remains of Lag Tower, of which the persecuting Sir Robert Grierson was, it is believed, the last occupant, and who also, there is reason to believe, was born within its walls. It has been a square keep, roughly built of unbewn stone, and with enclosing wall and arched entrance. The grim baronet had left it long before his death, first for Rockhall, afterwards for a house in Dumfries. The latest minutes of the "court of the barony," at which the baron bailie

dispensed justice, shew that it was held in 1731 at Gateside of Allanton. The ruin has received a good deal of attention in the way of facing the corners with dressed stone and pointing for purposes of preservation. The Wall-Rue grows freely in the crevices of the mouldering masonry.—*Dumfries Standard*.

21st September, 1901.—Lochrutton.

A party of the members visited Lochrutton on Saturday afternoon, 21st Sept., 1901, to examine the progress of the excavation of the crannog at Lochrutton undertaken by the Society, under the supervision of Mr James Barbour, architect, who accompanied the party. They had also the advantage of the company of Dr Munro, of Edinburgh, the leading authority on the subject of lake dwellings, and author, among other works, of "The Crannogs of Scotland," "The Lake Dwellings of Europe," "Prehistoric Scotland." They were joined also by Mr Grierson, farmer in Moat of Lochrutton, whose antiquarian tastes have led him to take an intelligent practical interest in the work, and who placed his boat at the service of the visitors. The boat of the Water Commissioners was also impressed into their service.

The loch, from which Dumfries and Maxwelltown derive their water supply, is about 250 acres in extent. The crannog island is almost exactly in the centre. It is a rounded hummock of stones and earth overgrown with young trees, and is a pretty object on the surface of the water. Around its edges there have long been exposed upright wooden piles and some tree trunks lying horizontally. Two trenches have been cut through the island at right angles to each other and intersecting at the centre, right down to the water level of the loch as it was found on Saturday. This level was considerably higher than it had been for some time, for the digging was begun when the loch was shrunk by the long drought, and the heavy rains had raised it by two feet on the previous day. And the winter level will be several feet higher. Just above the surface of the water as it was on Saturday there has been disclosed a floor composed of

undressed tree trunks laid closely together, different sections running in directions transverse to each other. The oak tree has been extensively used ; also the birch and the alder. One birch trunk was noted still covered with bark wonderfully fresh in appearance. A hole cut in it and a prepared beam indicate that the structure has been pinned together by the mortise-and-tenon device. An outer ring of piles has formed a stockade for the protection of the artificial island. It has thus been made clear that the crannog is of the kind most common in this country, and the construction of which is succinctly described by Dr Munro in his most recent work, " Prehistoric Scotland."

Gradual subsidence is to be expected in the case of a structure founded upon a more or less unstable bottom and compacted of more or less compressible and perishable materials. Traces of as many as half-a-dozen hearths, one above the other, have been found in various crannogs, indicating that the original floor has been overlaid by a succession of others. In the Lochrutton case there has obviously been a considerable sinking. The floor which has been exposed is several feet below the present winter level of the loch, although the loch has shrunk to some extent within living memory, and the probability is that older floors may exist beneath it. Little heaps of charcoal and several small fragments of brown pottery are the only domestic relics which have been unearthed. Formerly, we understand, when the island was a barren resort of gulls, fragments of bone could be picked up in wonderful profusion. These have been incorporated into the substance of the trees which now luxuriate upon it.

Lake dwellings have existed over a wide area of continental Europe as well as in the British Isles. In recent years remarkable discoveries have been made of submerged villages in Swiss lakes, the existence of which is attested by forests of piles, which had supported the huts, in a manner still perpetuated in various parts of the world, including South America and the East Indies. In Britain the common form was that of the crannog or artificial island, constructed usually in the manner above described, but sometimes in large measure of stones, and often probably having as a nucleus a small natural island or submerged rock. They abound in Dumfriesshire and Galloway. The Antiquarian Society has in past periods of its history investigated to some extent crannogs in the Castle Loch of Lochmaben, at Sanquhar. at Clon-

yard in Colvend. There is probably not a loch of any size in the district that has not one or more. A friend who has devoted some time and pains to inquiry on the subject informs us that Lochaber is the only one near at hand where he has failed (as yet) to find them. There is a beautiful one in Loch Kindar; a large and most interesting one in Loch Arthur; others in Milton, Auchenreoch, Loch Urr, &c. In Colvend at least three of the lochs have crannogs. The drained Cloak Loch has a rather unique structure which may be classed with them. It is placed on the solid natural rock. In the case of Lochrutton some circumstances suggest that the crannog now under consideration (and of which the area has not yet been determined) was one of a group which dotted the loch, at a time possibly when its area was more extensive than it is now. The promontory on the Lochside shore, opposite the crannog, has obviously been a place of strength or residence. A trench has been dug upon the landward side, which would convert it into an island in a high state of the water; and it is protected on that side by a bank thrown up from the cutting, and on the water side by a facing of large stones. Bones and teeth of cattle have been got on the promontory plentifully in dry years. Similar finds have been made on the "Wee Island," towards the west side of the loch. Within the last ten or twelve years that island has become covered with brushwood, &c. Previously it only became exposed in dry seasons. A small group of stones has in quite recent years appeared in dry seasons nearer to the outlet of the loch than the crannog, and has received the name of "the Laird's Isle." These, there is good reason to believe, are the remains of the top of a crannog, which has been washed away and probably destroyed by wind and waves. The "Moat of Lochrutton," a very extensive earthwork north of the village of Lochfoot, gives name to the neighbouring farm. Upon it "hearths" and other remains are constantly found during ploughing. At the south-east base of the Moat were found some years ago upright and cross oaken piles mortised together, which are now in Mr Grierson's possession. These probably formed some prehistoric structure. Part of a prehistoric canoe, dug out of a field on the neighbouring farm of Armannoch, did duty some years since as the cover of a well on that farm, and is possibly there yet.

For what purpose were these mysterious dwellings raised,

with the great labour they must have entailed? For purposes of protection, is the ready answer. They would afford a protection when beset by hostile tribes. But we must remember that it was not only from human enemies that the early Briton needed protection. It is not certain that the bear survived in Scotland beyond the sixth century of the Christian era; but individual survivals of the wolf were met with until within a few years of the Revolution that put William of Orange on the throne, and in earlier centuries they would roam the forests in ferocious packs. An Act of the Scottish Parliament of 1580 required that the Sheriff and Bailie "hunt the wolf thrice in the year, betwixt St. Mark's Day and Lambes, and that the country rise with them for that end." Families left on an island habitation would be safe from their attacks while the men of the tribe were following the chase at a distance or out on the warpath. The crannog in all probability was a place of ordinary residence, not merely of occasional resort. It is understood that it was usually wooden huts which were erected upon them; but indications of rude stone buildings have been found on some of them; among others, in one at Ravenstone, in Wigtownshire. And the numbers of comparatively large stones overlying the Lochrutton crannog cannot well be accounted for on any other theory than that they had been used in the construction either of a dwelling or an encompassing wall.

That the crannogs belong to a remote past there can be no doubt; but data are wanting to fix their age with any precision. Dr Munro has formed the opinion that they are all more recent than the Roman occupation of Scotland, and that many have been occupied until a comparatively recent period. Considerations of convenience and conservatism of habit would no doubt prevent them from being deserted until long after the original necessity for them had passed away. Hence articles which may be found in them are not necessarily an index of the period in which they were constructed.

The ordinary means of communication with the mainland would, of course, be by canoe; but in many instances a submerged road has been traced, to which the term causeway has been applied. The gentleman to whom we have already alluded and a friend satisfied themselves, twenty-four years ago, that there were distinct traces of such an approach from the promon-

tory to the crannog in Lochrutton. It was a very winding road, and would be intentionally made so in order to bar its use to any uninstructed and presumably unfriendly visitor ; and the person walking on it would probably be breast-high in the water. The present depth of the loch around the crannog is from twelve to fifteen feet.—*Dumfries Standard.*

SESSION, 1901-2.

18th OCTOBER, 1901.

ANNUAL MEETING.

The Rev. JOHN CAIRNS, M.A., in the Chair.

New Members.—Mr William M'Cutcheon, B.Sc., Assistant Science Master, The Academy; Mr Laidlaw, Plasterer, Lockerbie.

Donations and Exchanges.—Annual Report of the Barrow Naturalists' Field Club for 1899. Communications of the National Museum of Buenos Ayres, 1901, Vol. 1. Proceedings of the Nova Scotia Institute of Science, X., Part 2. The Session Book of Bunkle and Preston, 1665-1690, printed for the Berwickshire Naturalists' Club. Annual Reports of the Smithsonian Institute for 1897 and 1899.

Exhibits.—Dr Martin, Holywood, showed (1) specimen of a Lamprey (*Petromyzon marinus*), caught on the rocks at East Cluden this summer, 22 inches in length, and evidently a female; (2) male and female purple saw fly (*Sirex purpureus*), taken at East Cluden in August of this year; (3) white variety of Knapweed (*Centaurea nigra*), found in a field at Upper Cluden; and (4) Phallus or Stinkhorn in fluid, with section to show the bursting of the young phallus and its relation to the older plant.

Mr Moodie, on behalf of Mr James Barbour, exhibited the following articles, discovered at the bottom of the fosse of Comlongon Castle which had been recently excavated, (1) a

dagger, (2) an axe head, and (3) shoe of a pony, with enormous nails.

Mr Moodie proposed a vote of thanks to Lord Mansfield and Mr Johnstone-Douglas, through whose kindness Mr Barbour had obtained the articles for exhibition.

A letter was read from Mr James M'Andrew, Assoc. Bot. Soc. Edinr., New Galloway, intimating his resignation as a member of the Society. The Rev. Mr Andson expressed the great regret of the Society at the loss of Mr M'Andrew's services, and their high appreciation of the help he had given the Society by his numerous contributions to the Transactions in the Department of Botany. He moved that they enter in their Minutes an expression of their sincere regret at his removal from the district, and their high appreciation of his valuable and important services rendered to the Society; and further, that in token of that appreciation they appoint him an honorary member. Dr Maxwell Ross seconded the motion, which was unanimously carried, and an excerpt of the minute was directed to be sent to Mr M'Andrew.

SECRETARY'S REPORT.

The Secretary (Mr Bertram M'Gowan) in his Annual Report stated:—

During the session just closed there had been five deaths and seven resignations among members, and sixteen new members had been added to the roll, which now contained sixteen honorary members, fourteen life members, and 175 ordinary members. The deaths included the Rev. Mr Thomson, of Hightae, who had done much good work for the Society, and the resignations that of Mr James M'Andrew, New-Galloway, who had contributed so much to their knowledge of the botany of the Solway district. The Society had also sustained a great loss through the resignation of the Secretaryship by Dr Maxwell Ross, owing to his being so much engrossed with other work.

TREASURER'S REPORT.

The Treasurer (Mr J. A. Moodie) read his Annual Report from 1st October, 1900, to 30th September, 1901, as follows:—

CHARGE.

Subscriptions from 150 Members at 5s each	..	..	..	..	..	..	£37 10 0
Do. ,, 8 ,, 2s 6d each	..	..	..	..	..	..	1 0 0
							<hr/> £38 10 0
Entrance Fees from 14 New Members	..	..	..	..	..	..	1 15 0
Arrears of Subscription paid	..	..	..	..	..	..	0 5 0
Copies of Transactions sold	..	..	..	..	..	..	0 15 8
Interest on Bank Account	..	..	..	..	..	..	0 3 4
							<hr/> £41 9 0
Amount of Subscriptions received, per Mr Robert Murray, towards Excavation of Crannog at Lochrutton, and other similar work	..	..	..	..	..	..	26 10 0
							<hr/> £67 19 0

DISCHARGE.

Balance due Treasurer at close of last Account	..	..	..	..	..	..	£3 1 11
Less Balance in Savings Bank	..	..	..	..	..	..	0 15 6
							<hr/> £2 6 5
Paid Salary of Keeper of Rooms and additional Allowance for Heating Rooms during Winter	..	..	..	..	..	..	3 1 0
Paid for Periodicals and Books	..	..	..	..	..	..	2 9 0
Paid for Stationery, Printing, &c.	..	..	..	..	..	..	0 13 6
Paid for Gas and Coals	..	..	..	..	..	..	0 13 10
Paid Fire Insurance Premium	..	..	..	..	..	..	0 4 6
Paid Expenses of calling Meetings—							
Post Cards and Addressing same	..	..	..	..	..	£5 9 1½	
Printing same	..	..	..	..	..	1 2 0	
							<hr/> 6 11 1½
Postages, &c.	..	..	..	..	..	..	0 18 7
Miscellaneous Payments	..	..	..	..	..	..	1 0 5
							<hr/> £17 18 4½
<i>Excavation Fund—</i>							
Lodged on Deposit Receipt	..	..	..	..	..	£26 0 0	
Paid for Hire to Lochrutton	..	..	..	..	..	0 6 0	
							<hr/> 26 6 0
Balance due by Treasurer—							
Cash on hand	..	..	..	..	..	£7 15 9½	
Balance in Savings Banks	..	..	..	..	..	15 18 10	
							<hr/> 23 14 7½
							<hr/> £67 19 0

Account in connection with the publication of "Birrens and its Antiquities."

CHARGE.

By Balance due to Treasurer at 30th September, 1901... .. £10 14 10

DISCHARGE.

To Balance due to Treasurer at 30th September, 1900... .. £10 14 10

ELECTION OF OFFICE-BEARERS.

Hon. President—Right Hon. Sir HERBERT MAXWELL, Bart., M.P.

Vice-Presidents—Rev. JOHN CAIRNS, M.A. ; Mr ROBERT MURRAY, George Street ; Mr ROBERT SERVICE, Seedsman, Maxwelltown ; and Mr JAMES DAVIDSON, Summerville.

Secretary—Mr BERTRAM M'GOWAN.

Treasurer—Mr J. A. MOODIE.

Librarians and Curators of Museum—Rev. WILLIAM ANDSON and Mr JAMES LENNOX.

Curators of the Herbarium—Professor G. F. SCOTT-ELLIOT, Misses HANNAY, Langlands ; Miss CRESSWELL, Nunholm.

Council—Mr JAMES CLARK, Rector of the Academy ; Dr JAMES MAXWELL ROSS, County Medical Officer ; Mr W. J. MAXWELL, Terregles Banks ; Mr J. G. H. STARKE, Troqueer Holm ; Dr CLARKE, Dumfries ; Dr MARTIN, Holywood ; and Mr JAMES S. THOMSON, Jeweller.

COMMUNICATIONS.

The Treasurer read the following "*Addenda and Corrigenda*" to Mr M'ANDREW'S *Lists of Mosses, Hepaticæ, and Lichens of the district* :—

Since the publication of my lists of Mosses, Hepaticæ, and Lichens in "The Transactions of the Dumfries and Galloway Natural History and Antiquarian Society"—the Mosses and Hepaticæ on page 89 of No. 6 for 1887-90 ; the Lichens on page 28, No. 7 for 1890-91 ; and the cryptogamic botany of the Moffat district on page 30 of No. 8 for 1891-2—I have from time to time in my botanical notes added a few more species of these cryptogams. I have written in the hope that the collection of this scattered information into a Supplementary List may be useful and convenient. I consider that the species given on the authority of Dr W. Nichol and Mr John Sadler from the Moffat district require re-discovery and re-confirmation. As for the other species from the district I think I have specimens of them all. I have not added new localities for species already named. I have also added a few of the rarer species I have gathered in Wigtonshire. It gives me pleasure to note that my corrections in species cited as occurring in the three south-western counties are very few. While this is so, I consider that there is ample room for

adding considerably to my lists by any one who possesses leisure and interest.

MOSSES—ADDENDA.

N.G. is for New Galloway.

Sphagnum medium, Limp., Moss Raploch, N.G.

22. *Andræa falcata*, Schpr., Grennan Bank, Dalry, N.G.
 33. *Gymnostomum microstomum*, Hedw., Isle of Whithorn, W.
 42a. *Rhabdoweissia crenulatus*, Jameson, Criffel, Black Craig, N.G., &c.
 53. *Dicranella varia*, var. *callistoma*, Schpr., west side of Loch Ryan, W.
 66. *Dicranum longifolium*, Hedw., Maidenbower Crags, Dumfries (Kew Herb.) Dr. Br. "Moss Flora."
 74. *Dicranum spurium*, Hedw., Well Hill, Moffat.
 114. *Pottia cavifolia*, Ehrh. Moffat (J. Sadler, Esq.)
 129. *Didymodon luridus*, Hornsch., west side of Loch Ryan, W.
 134. *Eucladium verticillatum*, L., Portpatrick, W.
 137. *Ditrichum flexicaule*, Schwæg., Grey Mare's Tail (Dr W. Nichol).
 159. *Barbula fallax*, var. *brevifolia*, Wils., Kenmure dykes, N.G.
 165. ,, *vinealis*, Brid., do.
 166. ,, *Hornschuchiana*, Schultz., Dyke at The Holme, N.G.
 222b. *Racomitrium aciculare*, var. *denticulatum*. Wils., side of Loch Ken, N.G.
 223. *Racomitrium protensum*, A. Braun; common on rocks on the hills, N.G.
 233. *Zygodon Stirtoni*, Schpr., The Forest, Sorbie, W.
 253. *Orthotrichum affine*, var. *rivale*, Wils., Kenmure Holms, N.G.
 302. *Philonotis fontana*, var. *capillaris*, Lindb., Black Craig, N.G.
 304. ,, *calcarea*, B. & S., Portpatrick, W.
 320. *Bryum pendulum*, Hornsch., Cluden Mills, Dumfries (James Murray).
 329. *Bryum intermedium*, W. & M., Kenmure dykes, N.G.
 335. ,, *murale*, Wils., Moffat (G. F. Scott-Elliot).
 397. *Fissidens exilis*, Hedw., about Drumlanrig (James Murray).
 399. ,, *viridulus*, Wils., Beld Craig, Moffat (J. B. Duncan, Bewdley).
 415d. *Hedwigia ciliata*, var. *striata*, Wils., Grennan Bank, Dalry, &c., N.G.

416. *Hedwigia imberbe*, Sm., Loch Trool (James Murray).
 442. *Heterocladium heteropterum*, var. *fallax*, milde, Glenlee Glen, &c., N.G.
 445. *Thuidium recognitum*, Lindb., frequent about N.G., Screel Burn, &c.
 Thuidium delicatulum, Mitt., Glenlee Glen, &c., N.G.
 455. *Isothecium intricatum*, Hartm., Holme Glen, N.G.
 458. *Camptothecium lutescens*, Huds., Southernness.
 495. *Rhynchostegium murale*, Hedw., Irongray (James Murray).
 514. *Amblystegium aduncum*, Hedw., side of Loch Ken, &c., N.G. (James Murray).
 517. *Hypnum intermedium*, Lindb., west side of Cairn Edward, &c., N.G.
 528. *Hypnum rugosum*, Ehrh., about Grey Mare's Tail (J. Sadler).
 531. ,, *hamulosum*, B. & S., do. (Dr W. Nichol).
 532. ,, *callichroum*, Brid., Black Craig, Blackwater Burn, Dalry, &c., N.G.
 543b. *Hypnum eugyrium*, var. *Mackaii*, Schpr., River Ken, Holme Glen, Garroch Glen, &c., N.G.
 551. *Hypnum polygamum*, B. & S., Portpatrick, W.

MOSSES—CORRIGENDA.

- Erase 16b. *Sphagnum cymbifolium*, b. *congestum*, Schpr., as it is *Sphagnum medium*, Limp.
 ,, 415c. *Hedwigia ciliata*, var. *veridis*, as it is var. d. *striata*.
 ,, 539. *Hypnum crista-castrensis*, L. for Kirkcudbrightshire, as it is *Hypnum callichorum*.

HEPATICÆ—ADDENDA.

6. *Lanularia vulgaris*, Mich., Kenmure, Glenlee, &c., N.G.
 11. *Riccia glaucescens*, Carr., Burnfoot Hill, N.G., and Portpatrick, W.
 20. *Frullania fragilifolia*, Tayl., about Portpatrick, W.
 29. *Lejeunea minutissima*, Dum.—*Lej. ulicina*, Tayl., Kenmure Woods, N.G.
 32a. *Lejeunea serpyllifolia*, var. *planiuscula*, Lindb., Holme Glen, &c., N.G.
 32b. *Lejeunea serpyllifolia*, var. *cavifolia*, Ehrh., Moffat and N.G.
 34. ,, *flava*, Sev., near it if not quite typical, Holme Glen, N.G.

- Lejunea flava*, var. *pallida*, Spr., Holme Glen.
 35. „ *Mackaii* (Hook), Dunskey Glen, Portpatrick, W.
 37. *Radula aquilegia*, Tayl., Kenmure Backwood, N.G.
 40. „ *Lindenbergii*, Gott., Knocknarling Burn, N.G.
 47. *Lepidozia Pearsoni*, Spr., Black Craig, N.G.
 59. *Cephalozia laxifolia*, Hook., Lowran Burn, &c., N.G.
 68. „ *multiflora* (Huds.) Spr., Black Craig, &c., N.G.
 77. *Harpanthus Flotowii*, Nees., Glenlee Glen, N.G.
 90. *Scapania subalpina*, Dum., Garpel Burn, N.G.
 96. „ *resupinata*, var. *minor*, Dunveoch Glen, N.G.
 101. „ *umbrosa*, Schrad., Moffat, Glenhowl, Dalry, N.G.
 106b. *Plagiochila asplenioides*, var. *Dillenii*, Tayl., Dunveoch Glen,
 &c., N.G.
 121. *Aplozia sphærocarpa*, Hook., Garpel Burn, &c., N.G.
 128. „ *orcadensis*, Hook., Knocksheen Glen, N.G.
 135. *Lophozia porphyroleuca*, Nees., Bowwood, Garroch, &c., N.G.
 138. „ *capitata*, Hook., Bennan Hill, Garroch Wood, N.G.
 140. „ *alpestris*, Schleich, Moffat, s. of Loch Dungeon, N.G.
 151. *Nardia emarginata*, var. *densifolia*, Black Craig, Shaw Hill,
 N.G.
 159. *Nardia compressa*, Gray, east side of Cairn Edward, N.G.
 183. *Aneura latifrons*, Lindb., Bennan Hill, N.G.
 188b. *Metzgeria hamata*, Lindb., Ballingear Glen, N.G.
 191. *Anthocerus punctatus*, L., near Portpatrick, W.

HEPATICÆ—CORRIGENDA.

- Erase 13. *Riccia bifurca*, as it is *Riccia glancescens*.
 „ 133. *Lophozia lycopodioides*, Wallr., as it is *Lophozia Lyoni*.

LICHENS—ADDENDA.

- Sirosiphon pulvinatus*, Bennan Hill, N.G.
Collema pulposum, Portpatrick, W.
Bæmyces rufus, var. *squamulosus*, Nyl., Knocknarling Burn, N.G.
Cladonia cariosa, Ach., Airie Hill, N.G.
Stereocaulon coralloides, f. *congestus*, near N.G.
Evernia prunastri, var. *sorediifera*, N.G.
Peltigera spuria, Moffat.
Parmelia ambigua, Wamphray Glen, Barmurrie, Balmaclellan.
Physcia stellaris, Rerrick Shore.
Pannularia perfurfurea, Nyl., n. sp., Burnfoot Hill, N.G.

- Placodium elegans* (Link.), Viewfield, N.G.
Lecanora orosthea (Ach.), near N.G.
 „ *subfusca*, f. *atrynea*, Ach., N.G.
Lecidea umbralis, Nyl. n. sp., Knocknarling Burn, N.G.
 „ *neglectella*, Nyl. n. sp., Trochie's Braes, N.G.
Opegrapha atra, Pers., N.G.
Verrucaria oxyspora, Nyl., N.G.
 „ *biformis*, Borr., N.G.
Graphis sophistica, N.G.

II.—*Phenological Observations taken at Jardington during 1900.*

By Mr J. RUTHERFORD.

JANUARY.—Rainfall, 3·72 inches. Comparatively little frost during the month, the hardest being 7 deg. on the 11th. No severe weather. Barometer varied from 29·3 to 30·35 inches. Song of thrush heard on the 22nd. Dumfries rainfall, 3·89 in.

FEBRUARY.—Rainfall, 5·42 in. On the 9th 10 in. of snow fell, on the 10th 2 in. more, when the ground had a covering of fully 12 in.; no drifting. The weather, on the whole, was mild during the month. Dumfries rainfall, 4·07 in.

MARCH.—Rainfall, 0·2 in. There was little frost during the month, the night of the 18th being an exception, when the thermometer marked 16 deg. Cold E. wind near the end. Corn sowing on 27th. Hazel flowered on 10th. Dumfries rainfall, 0·25 in.

APRIL.—Rainfall, 2·3 inches. There was not much frost; the latter half of the month was warm and genial, and grass grew nicely. Swallows came on the 20th; “Coltsfoot” flowered on the 3rd; Anemone on the 12th; Blackthorn on the 25th; Cuckoo first heard, 24th. Dumfries rainfall, 2·77 in.

MAY.—Rainfall, 3·38 inches. No frost at night during the month. Oats and grass made good progress. Turnips sown on the 3rd were eaten by the green linnet and sparrows, and had to be resown on the 18th. Small white butterfly appeared on the 5th; the wasp on the 15th; horse-chestnut bloomed on the 23rd; the hawthorn on the 30th. First heard the corncrake on the 7th. Dumfries rainfall, 3·21 in.

JUNE.—Rainfall, 3·82 inches. With the exception of turnips, all other crops grew very rapidly, there being warm growing moist weather during the whole of the month. Ryegrass a heavy crop; cut on the 26th. Dog rose bloomed on the 15th. Dumfries rainfall, 4·22 in.

JULY.—Rainfall, 2·55 inches. Warm growing month. Pasture very abundant. Cutting meadow hay, 14th. Blue-bell came into bloom on the 9th; knapweed on the 21st. Meadow-brown butterfly first seen on the 11th. Butterflies are getting scarcer in this locality; orange tip was fairly plentiful here at one time. I have not seen it now for a number of years. Dumfries rainfall, 3·28 in.

AUGUST.—Rainfall, 5·65 inches. Harvesting began on the 9th, being a very heavy crop; a great quantity of it is lying flat, and will make poor fodder and light grain. Wasps scarce. Dumfries rainfall, 6·30 in.

SEPTEMBER.—Rainfall, 3·35 inches. There being so much wet and moist weather in August the disease commenced on the potatoes very early, and by the first of the month the shaws were black. Dumfries rainfall, 3·11 in.

OCTOBER.—Rainfall, 4·72 inches. There was frost on four nights during the month; as a whole, the temperature was warm. Potato digging began on the 3rd; the crop small and poor quality, with a lot of disease. Dumfries rainfall, 4·82 in.

NOVEMBER.—Rainfall, 4·4 inches. Turnip crop in a great many cases very poor. Dumfries rainfall, 4·69 in.

DECEMBER.—Rainfall, 8·2 inches; exceptionally heavy for this month. The rainfall for the year has been 47·71 in., about 8 in. above average of last seven years. Little frost; but a good deal of stormy, wet weather. Dumfries rainfall, 7·07 in.

RAINFALL AT JARDINGTON FOR SEVEN YEARS IN INCHES.

	1894.	1895.	1896.	1897.	1898.	1899.	1900.
January.....	5·25	2·0	2·32	1·7	2·78	5·8	3·72
February ..	8·37	2·9	2·1	2·82	3·41	3·05	5·42
March	2·45	2·62	3·8	5·2	0·90	4·2	0·20
April	1·8	1·8	1·45	2·5	2·9	2·9	2·30
May	3·0	0·62	0·5	1·7	2·32	3·53	3·38
June	2·6	1·1	2·75	2·7	1·6	2·3	3·82
July	2·25	5·6	4·5	1·2	0·5	2·0	2·55
August	3·1	6·1	1·18	5·6	4·12	1·92	5·65
September	2·5	0·45	4·6	3·8	2·4	2·8	3·35
October.....	2·8	3·1	3·1	2·5	3·25	2·72	4·72
November...	5·27	5·2	0·85	3·55	3·85	5·4	4·40
December ...	4·1	3·6	4·5	7·7	5·65	3·3	8·20
	43·49	35·09	31·65	40·97	33·68	39·92	47·71
Dumfries...	42·01	35·03	33·93	42·81	33·71	40·86	47·98

Mean about 39 inches.

Average annual rainfall at Jardington for last 7 years is ... 38·93 in.

Do. do. Dumfries do. ... 39·34 in.

Do. do. do. for 14 years* ... 37·43 in.

22nd November, 1901.

Mr ROBERT MURRAY, V.P., in the chair.

New Members.—Mr John M. Corrie, Post Office, Dumfries ;
and Mr John J. Mitchell, Teacher, The Academy.

A letter was read from the President of the Glasgow Natural History Society inviting the Society to appoint a representative

to attend the celebration of their Jubilee. Professor Scott-Elliot was unanimously appointed.

The Treasurer stated that he had still £19 on hand for excavation work.

COMMUNICATION.

First Account of the Excavations of Lochrutton Crannog. By Mr JAMES BARBOUR, F.S.A., Scot., Architect.

The transactions of this Society of 1863 and 1864 give prominence to the class of structures known as Lake Dwellings or Crannogs, and the addresses of the president, Sir William Jardine, contain much of interest regarding them. Several were visited, and in two instances exploratory operations also were instituted. The crannog at Corncockle was cleared by the president, when quantities of smashed bones, evidencing occupation, were found, and at the Black Loch of Sanquhar, the water having been run off, a section was cut through the crannog down to the bottom of the loch, fully disclosing the design. No relics, however, of chronological import, or bearing on the civilisation of the occupation, were discovered in either case. Another like structure, situated at Friars' Carse, examined by Dr Munro, is described in his valuable work, "Ancient Scottish Lake Dwellings or Crannogs." These seem to be the only instances of systematic investigation overtaken in the district in connection with such structures.

Tabulated in Dr Munro's book are the following crannogs in the counties of Dumfries and Kirkcudbright, viz.:—Lochmaben, Black Loch of Sanquhar, Friars' Carse, Loch Orr, Lochwood, Closeburn, Corncockle, Morton, Lochrutton, Loch Kinder, Carlingwark, Lotus Loch, Borean, Borgue, and Loch Fergus.

Last year the Society resolved to institute exploratory operations, selecting Lochrutton crannog for examination. Several circumstances lend themselves to mark it out as one of some importance. The loch is of large area and deep. A peninsula on its east margin is served from the mainland by an artificial ditch and rampart drawn across the neck; and so forms an island about an acre in extent; and about 300 yards distant from the north

end of the loch there is a large camp or moat from which the farm of Moat derives its name.

The site of the ancient castle of Auchenfranco also lies at the south-west corner of the loch, and at a distance of little over half-a-mile to the south-east stands Hills Tower, tall and picturesque, and, thanks to the care of the proprietrix, well preserved.

The crannog and a small natural island, named on the Ordnance Map Dutton's Cairn, appear as wooded specks on the surface of the loch. The loch lies 305 feet above sea level, measures nearly a mile in length from north to south, and half-a-mile in width, and extends in area to 125 acres. The principal feeder is at the south end, the outfall being opposite, with a rock bed not liable to change. The crannog is 230 yards distant from the peninsula on the east shore the nearest point of the mainland; 190 yards of water separates it from the natural island, which again is 90 yards distant from the west shore of the loch.

It is not a little remarkable that the crannog occupies a position as exactly as may be in the centre of the loch's area, so that notwithstanding its diminutive size, being divided by the *medium filum*, the eastern half belongs to the proprietor of Hills, and the western to Auchenfranco.

In regard to the depth of the loch, the soundings round the crannog show a nearly level bottom with 11 to 13 feet of water. Half way between the islands the depth increases to 35 feet, and 140 yards to the south of the crannog, the deepest part of the loch, the sounding is 52 feet. 12 feet is the depth between the natural island and the west shore, and between the crannog and the east shore it is $11\frac{1}{2}$ feet.

The examination of the crannog by pick and spade, although sanctioned last year, could not be carried out at that time owing to the high level of the loch. The peninsula or outer island was, however, partly examined by sections through the artificial rampart and a number of short trenches in the interior. In the beginning of September last the exploratory works were proceeded with on the crannog, two workmen being employed, and operations continued during three weeks. Considerable progress had been made; when, unfortunately, following on rains, the level of the loch again rose, and ultimately reached a height which rendered postponement of the completion of the investigation imperative.

The crannog when approached presents the appearance of a low circular cairn of stones resting on a foundation composed of logs of wood, and rising from the water level with a slightly rounded section to a grass-covered plat in the centre. A row of alders, doubtless sown with seeds carried there on the water's surface, encircles the plat, and marks the winter level of the loch. The crannog measures eighty feet in diameter, and the centre plat rises six feet above the log floor.

The work overtaken consisted in carrying a wide section across the crannog in a direction approximately north and south, down through the superincumbent earth and stone to the wood floor of the structure. Another similar section followed, in a direction at right angles with the first, and the excavations were continued in the interior. After considerable advance had been made, the influx of water began to impede operations, and ultimately reached a height making further progress impossible. The ends of the sections were then closed with earth and a pitching of large stones, and the works ceased for the season.

These exploratory excavations have disclosed more fully the characteristics and structural arrangements of the island, and some vestiges, it is thought, of the superstructure or dwelling-house have been brought to light. Relics have also been recovered bearing on the character and era of the occupation.

The sections disclose the strata from the top of the centre plat downwards to the wood floor. There is first turf and free soil about eighteen inches thick, then comes another layer of soil of similar thickness, but more compact and changing to marl or clay at the bottom. Below the second bed a quantity of whinstones, unshaped and disposed without order, the interstices being filled with marl coloured earth, lies on wood floor. The layer is three feet thick in the centre, but towards the margin it tapers down to the wood.

The surface of the island supporting these strata exhibits a comparatively level floor, composed entirely of logs of wood disposed in groups of parallel pieces, lying in many different directions and fitted closely together. The logs, measuring six inches to twelve across, are mostly round, and sometimes retain the bark, but a few are squared in whole or part. Oak, birch, and other woods obtain.

Round the exterior of the island a rough banking of tumbled

stones slopes outwards into the water, and among the stones are numerous timbers lying without order, and apparently displaced from their original position, as if the outer fringe of the Crannog were broken down.

It has been ascertained that to a depth of five feet from the floor the construction consists of layers of logs alternating with thin beds of stones, and this method probably continues downwards to the bed of the loch, as was proved by Dr Munro to be the case at Lochlee Crannog. It seems, as the timbers would be self-carrying, the most appropriate in the present instance, considering the distance of the Crannog from the mainland and the depth of the water to be crossed. The groups already described as forming the floor are very suggestive of rafts, which might have been put together on the shore and floated thence to the island and into position.

Morticed beams such as are common in structures of the kind have not been observed *in situ*, but detached pieces of this description are found.

The island was probably stockaded, like the Lochlee Crannog, but the morticed beams have disappeared by decay and the action of the waves as the structure began to sink. At a distance of about four feet from the exterior margin remains of a number of oak posts, three inches to six inches in diameter, project above the surface of the floor, and appear to have formed part of the stockading. The posts are pointed and driven into the floor $1\frac{1}{2}$ feet to $2\frac{1}{2}$ feet, and the points have evidently been shaped by means of a sharp axe. In the interior small oak branches similarly pointed are found driven between the logs, as if intended to secure them in position.

The log floor now scarcely rises above the summer level of the loch, and the winter level, as it is indicated by the wash and the lime where vegetation begins, is considerably higher than the floor, shewing that sinking or shrinkage has taken place. The amount of the depression is probably as much as five or six feet, and as the bed of the loch consists of debris of rock not likely to yield much from the weight, the subsidence of the structure has, it may be conjectured, arisen mainly through the compression of the materials of which it is built.

These are the general, and no ways exceptional, features of the structure. On it would doubtless be raised for the shelter of

the inmates some sort of dwelling-house. The superstructure, however, being particularly exposed to destruction through natural decay and in other ways, has, as might be expected, disappeared, leaving hardly a certain trace of its existence. Whether built mainly of stones or of wood cannot certainly be known. The large collection of stones heaped on the floor of the Crannog is possibly debris of a stone-built house. Of wood debris there was found embedded among the stones several pieces of oak, one morticed, one squared and holed for the reception of a stout pin. Another lay on the log floor apparently *in situ*. It is squared, or nearly so, clean cut across the ends, and rebated as if intended for the reception of uprights, one of the rebates being pierced with a pin-hole, and the upper face shews a long groove 4 inches wide, 4 inches deep, and $26\frac{1}{2}$ inches in length. The piece measures $10\frac{1}{2}$ inches by 8 inches across, 4 feet 2 inches in length, and 3 feet 4 inches between the rebates. Evidently it belongs to the superstructure, and probably served as the threshold of the door. That the wood vestiges are meagre is not surprising, as whatever of this material the building contained was liable to be carried away. Judging from analogous structures elsewhere in Scotland, the probability is that the original house was constructed of wood.

The relics recovered during the excavation of the Crannog shew less variety of objects and a more limited range of occupation than those from some of the other structures of the kind; on the other hand, the character and period of the occupation are, perhaps, better defined than is usually the case.

The loch has been and is resorted to by anglers, curlers, and others, who would doubtless often use the Crannog as a retreat and rest, and so it has happened that the upper stratum of earth yielded articles of recent date. On the top of the centre plat some stones formed a hearth, over which lay peat ash and a quantity of peats, and in the surface mould was found a small leaden bullet, two penny pieces of the reign of Queen Victoria bearing date 1861-66, fragments of glass bottles, pottery, and tobacco pipes. One of the "finds" consisted of the base of the bowl and shank of a curious example of the last-mentioned class of objects, which probably belongs, Dr Anderson suggests, to the 17th century.

The relics and evidences relating to the occupation were

recovered from among the stones overlying the log floor, and at a depth of not less than three feet six inches below the turf of the centre plat. Food refuse is plentiful, such as bones of animals and birds, which, however, having been burnt, are, except a few, indistinguishable. Of the latter are teeth of the ox, a boar's tusk, bone of a bird, and a fragment of deer's horn. There is also a piece of the jaw of a rodent not much larger than a rat. Shells of hazel nuts are found. Charcoal is abundant, although no hearth has yet been discovered.

Pottery is the predominant article of the relics. Over 170 fragments were found, mostly very small, but showing variety of material, make, and form of vessel. It consists of blue, red, and black metal, almost all wheel made, and, with the exception of a few pieces, it is glazed chiefly with a greenish or yellowish green glaze. Brownish glaze and brownish green glaze are also found. Several pieces are roughened by pounded grit cemented on them by the glaze. Pieces belonging to several vessels are marked with herring-bone ornamentation, others with vertical projecting ribs and oblique parallel lines, and another form of ornamentation consists of a row of thumb marks round the exterior margin of the bottom of the vessel.

There are fragments representing 13 handles of jars and other vessels, also several spouts, one being of tubular form.

Some of the jars in addition to the large carrying handles at the back have been furnished with smaller supplementary handles in front of each side of the spout for the purpose of tilting the vessel to a convenient angle to drink from.

A variety of other objects were obtained, such as a piece of red pigment, probably hæmatite, three small pieces of sheet lead, some nondescript iron, a large nail, part of the blade of a large knife curving inwards, much rusted, a leaden spindle whorl, a small ring or link of bronze or brass, two fragments of a circular vessel of red sandstone, widening upwards, the bottom flat. The side is $1\frac{1}{2}$ inch thick; the vessel is of fine workmanship, smooth inside and dressed with a sharp point outside. From below the log floor was recovered a small splinter of oak neatly wrapped about with a narrow ligament of skin, probably a fragment of a basket.

The most impressive and almost unique relic, however, is a small and imperfect pendant cross of jet or a material resembling

jet It consists of a circular centre disc, with two arms. The other two arms are broken off and wanting. The disc, which measures $\frac{5}{8}$ of an inch in diameter, is flat on the faces and rounded on the edge, and the arms tapering slightly have the corners rounded off, and terminate with flat pedimental canopies. When complete the cross would measure $1\frac{1}{2}$ inch between the points of the transverse arms. On the face of the cross the disc has been inlaid in the form of a floriated Greek cross, and with small globular circles between the arms; and a socket marks one of the arms under the canopy. The reverse is plain except the disc, which bears the letters IHC, with a mark of contraction over them. The letter H has an incurving downstroke, and the C is closed. Dr Anderson, to whom the relics were submitted and who kindly advised respecting their character, says, in reference to the cross: "The cross of jet is a very remarkable thing. It must have been of the equal armed form (Greek). The lettering IHC, with the contraction above it, seems to mean that the three letters are to be read as Jesus, although they may also be expanded in the other sense given to them in the middle ages as Jesus Hominum Salvator. But the use of C for S rather favours the view that Jesus is intended." He further says: "It seems to me to be late. I do not find the incurving down stroke of the H before the 12th century. The closed C used here for S is not an early form either."

Only in one other instance has an article of this description been found in connection with a Scottish lake dwelling. An equal armed cross within a circle and decorated on the face was discovered by Dr Munro at Lochspouts. It is figured and described in his book.

To supply as before a descriptive sketch of the Crannog and the excavations carried out by the Society, with the results, is the chief purpose of this paper, but it may be proper before closing to submit briefly a few suggestions regarding the significance of the details recorded.

The situation of the Crannog in deep water and at the greatest distance from the shore the loch allows is an indication that its primary purpose was to afford security and protection to the occupiers. The existence of the outer intrenched island on the east shore of the loch, which there can hardly be any doubt was associated with the Crannog, is a circumstance not met with

elsewhere. The two evidently stand one to the other in the relation of the Base-court and the Citadel of a Mote.

At this stage it may be noted that the peninsula or outer island yielded no relics in the interior, but teeth of animals are plentiful along the water's edge, and in the substance of the artificial rampart already described were found fragments of bone, deer's horn, glass slag, and nondescript iron or iron slag. Teeth of animals have also been observed on the natural island near the west shore of the loch.

The Crannog itself is of a type which is common, and there is nothing exceptional in the structural details it exhibits. The work exhibits judgment in the selection of materials adapted to the circumstances, such as admitted of being grouped on the shore and transported over the water, self carrying being preferred; and the disposition and method of securing the pieces in the structure is skilfully worked out. The carpentry shows some advance and the use of the more common tools of the craft.

The use of sharp-edged carpenter's tools of itself establishes the circumstance that the crannog does not date back to the stone or bronze ages, and the character of the relics found on it indicate an occupation comparatively modern. No evidence has been discovered bearing on the comparative age of the Crannog and of the occupation. So far as this partial exploration shows, the relics in this case differ from those of the more prolific lake dwellings examined, inasmuch as no stone (except only one disc) or bronze implements, or implements of bone have been recovered, and ancient pottery is also absent. The pottery, however, which is usually not plentiful, is here the most abundant and characteristic of the finds. Dr Anderson considers that the general aspect of the finds as a whole is mediæval, and the pottery is almost all of the fabric accustomed to be classed as 11th to 16th century.

Occupation appears to have been continuous, and to have extended over a considerable space of time. The occupants consisted of a family, who, judging by the plentiful and varied food refuse and the abundant and, it may be said, elegant table service of pottery, deserve in all circumstances to be described as opulent; and the cross recovered seems to show that they were of the Christian faith. This is the residence and stronghold of

the mediæval Baron, who had not yet built his embattled and moated stone tower.

To those who expected evidences of the remote the outcome may be disappointing, but the discovery of conditions and modes of living, but dimly shadowed in history, is a result alike interesting and instructive.

Thanks are due to a number of friends, in particular Mrs M'Culloch Jameson and Mr Steel, the proprietors, for permission granted to examine the island; Dr Anderson, who, as before stated, examined and characterised the relics; and Dr Munro, who has taken special interest and afforded active help in connection with the work.

Mr Barbour exhibited all the relics mentioned as having been found in the course of the excavations.

13th December, 1901.

Mr ROBERT MURRAY, V.P., in the chair.

Donations and Exchanges.—Transactions of the Stirling Natural History Society, 1900-1; Journal of the Elisha Mitchell Scientific Society, 1901, part 2.

COMMUNICATIONS.

I.—*A Contrast in Pre-Historic Forts near Dunscore.* By the Rev. RICHARD SIMPSON, B.D., Dunscore.

The fortified places of pre-historic times exhibit the greatest possible diversity in regard to size and structure, form and situation. A marked contrast in these last two respects is presented by two forts lying within a radius of a couple of miles from Dunscore. It is a neighbourhood rich in similar remains, and future examination may bring out other points of difference worthy of notice. This paper is concerned with the contrast in form and situation between the "Camp" on Springfield Hill and the Earthwork at Snade on the banks of the Cairn.

Between five and six miles from Dumfries, on the Glasgow

Road, and near the ancient churchyard of Dunscore, where Lag lies buried with Robert Riddel of Glenriddel and Friars' Carse as his nearest neighbour, a bye-road strikes over the hill to Dunscore Village. At its highest elevation it passes Springfield Hill farmhouse, behind which rises an eminence encircled by well-defined lines of entrenchment. Although popularly attributed to the Romans, this "camp," as it is called, possesses none of the characteristic features of the Roman castra, and no remains have been found to connect it with the occupation of Nithsdale by the legions. The level summit of the hill, which is between six and seven hundred feet above the sea, is defended on every side but one by the natural configuration of the ground. On the north and west there is a steep descent, which becomes almost perpendicular on the south, while on the east the slope is more gradual. Here, where nature is weakest, lines of artificial fortifications have been constructed. A wide trench of considerable depth has been cut, and within it a rampart has been formed, extending in crescent shape for a distance of 175 feet, and encircling the whole eastern side. Immediately behind this rampart there is a second trench, backed by a second rampart, and these are carried round the northern and western sides. Sufficient defence was thereby provided on these sides. On the south, however, no artificial fortification seems to have been considered necessary owing to the steepness of the slope. The east was the most liable to attack, and here still further efforts were expended. Within the second rampart a platform about 30 feet in width appears, and behind this outpost a third trench was dug, backed by a third rampart. This rampart is so elevated, partly by the nature of the ground, partly by artificial means, as to overlook and command all the works in front. The trenches must have been quite dry, for a supply of water sufficient to convert them into ditches or moats is not within reach. This fort is a good example of a position naturally strong made practically impregnable by the construction of fosse and rampart.

Twelve or fifteen years ago, trench, platform, and rampart were all apparent to the most superficial observer. A wood which formerly crowned the height had been recently cut down, and everything was clearly exposed to view. Even those passing along the road, 300 yards away, could mark the outline of the works against the sky. But the place has been re-planted, and the

young larches and firs with their thick growth have quite concealed them again. It is difficult, indeed, to make one's way among them, and quite impossible to realise thoroughly how well this lofty platform has been defended by nature and by the hand of man. But it is easy to see that if this hill-top was chosen as a post of observation or as a signalling station, no place better adapted for the purpose exists in all the country round. The whole of Lower Nithsdale lies beneath the eye. The Tinwald and Torthorwald Hills, with the square top of Birrenswark appearing above them; Glencairn and Glenesslin, and the mazes of mountain land beyond them on the border of Galloway; the Lowthers and Queensberry, Criffel, and, if it be clear, Skiddaw on the other side of the Solway, are all within sight.

In striking contrast with the "camp" on Springfield Hill is the Earthwork at Snade, about as far from the village of Dunscore in the opposite direction. Instead of being planted on a hill-top it lies low in the valley of the Cairn. Here no natural points of strength have been seized and skilfully adapted for defence, but everything has been laboriously constructed by the hand of man. Though numerous steep places, which would readily lend themselves to fortification, are to be found in the neighbourhood, a site has been chosen in the level holms beside the river. The entrenchment is not readily seen, for it is hidden in a grove of oaks like that which surrounds Dardarroch on the opposite bank of the Cairn. These trees would seem to be the descendants of the primeval forest which once filled all the valley and extended up through Glenesslin, giving its name to Holywood (*Sacrum Nemus—Sacrobosco*), and, like Sherwood Forest, sheltering outlaws and robbers. The earthwork lies on the western bank of the Cairn, about 300 yards from the river, and a short distance above the ford which crosses from Cambuscairn to Snade. Two deep trenches surrounding a level platform are the most striking features, and, from the proximity of a stream which passes fifty yards away, it is probable that they were kept constantly filled with water. There are indications, indeed, that the course of this rivulet has been altered for agricultural reasons, and that at one time it flowed close past the outermost trench.

I visited this earthwork several times during the past few months, the most recent occasion being on Saturday last, the 7th of December. I was accompanied then by Mr Aitken, school-

master, Glenesslin, and with his assistance, valuable on account of his skill with the surveyor's chain, I took several measurements. We found the form of the fort to be elliptical, or perhaps it would be more correct to say it is an irregular circle. The longer diameter—259 feet over all—runs nearly north and south; and the shorter diameter—253 feet—nearly east and west. There is thus only a couple of yards' difference between them, or a single yard in the radius.

The outer trench is both wide and deep. It varies in width from 32 feet on the eastern side to 43 feet on the west—the narrowest part being nearest the river, and the widest where the ground rises slightly above and overlooks the entrenchment. Other measurements gave 38 and 39 feet, on the north and on the south. On these sides the depth does not exceed a couple of feet, but the ground was too soft to make sure. On the west we measured 10 feet 10 inches in depth, not at the deepest part. On the east it appears to be deeper still, but owing to water in the trench there we could not make any attempt at measurement.

The rampart within this outer trench, with its curved upper surface, measures 16 feet across on the north, 15 feet on the west, 14 feet on the south, and 13 feet on the east. It varies considerably in height, being loftiest on the east and west.

Within this rampart there is a second trench, varying in width from 20 feet on the south and east to 24 feet on the north, and 30 feet on the west. The depth of this ditch will be about 5 feet, and less than that in some places. Within it there may have been another rampart, but the traces of it are not very distinct, and such as do exist may only indicate the line of a palisade.

The level area so thoroughly defended is not of great extent. It measures 108 feet from north to south, and barely 100 feet from east to west. Many oak trees are growing upon it and all along the rampart, springing from the roots of trees that have long ago been cut down. The leaf mould of centuries lies deposited on the surface and in the trenches, so that their actual depth and the original level of the ground could be revealed only by excavation. Excavation would also shew whether the foundation of the rampart was formed by stones, loosely piled together or regularly built, or whether it was formed simply with the earth thrown out of the trenches. From the number of stones of con-

siderable size lying about, especially on the sloping sides of the fosse, the presumption is that they were used as the basis of the wall, even if we make allowance for the fact that the deep outer trench has been used as a "free coup" for stones gathered by farmers from the fields adjoining.

I could discover no trace of an entrance. Apparently the inhabitants came and went on a plank, which could be withdrawn at the slightest sign of an enemy's approach.

Notice must be taken of what appears to be an outpost on the southern side of the earthwork. This is a raised mound, the innermost part of which is almost obliterated. The outermost end is 68 feet from the edge of the trench. It measures 22 feet across at the widest part, and at its highest point is elevated four feet above the cultivated ground. A good view is to be obtained from this slight eminence both up and down the valley, though of course nothing to be compared with the wide prospect from the summit of Springfield Hill.

At the foot of this mound may be seen a white wooden peg, one of the line marking the course of the Cairn Valley Light Railway. The ancient and the modern are thus brought into striking juxtaposition. It is devoutly to be hoped that the railway, operations on which have now been carried to within a mile of the earthwork, will make no encroachment upon this interesting and suggestive relic of the days of old.

II.—*List of the Birds of Glencairn.* By Dr MARTIN, Holywood.

To every lover of nature the study of birds must be of surpassing interest, and that from a manifold point of view. Their purpose in the general economy of nature, their oneness of type and structure, their beauty of form and plumage, with many engrossing peculiarities, such as song and nidification, give to the feathered tribe an attraction for study hardly equalled in the whole realm of things that possess life. It is our privilege to-night to devote a little attention to this great and important class of "aves," and to deal with a given area, to see what of interest can be evolved for any scientific enlightenment that may commend itself to us as a Society. Might it be too much to forecast and hope that some day we may have a paper on birds in their relation to the pre-

historic period of our country? The county of Dumfries is probably one of the best in the south of Scotland for the wide variety of its wild birds, and the little district of Glencairn (the lower portion at least), for a purely inland parish, can lay claim to a very great many, which the following list will show :—

BUZZARD (*Buteo vulgaris*).

Occasionally a single one is noticed in the higher districts of the parish during the early spring months and late in the autumn.

MERLIN (*Falco artalon*).

Is rather rare, and only an occasional one is noticed.

KESTREL (*Falco tinnunculus*).

This is the commonest hawk we have, and during the great vole plague several years ago was very plentiful, and I know of several places in our highest hills where they nested in colonies. It is undoubtedly the most useful bird of prey we have, as mice, beetles, etc., form its chief food, although occasionally an unfortunate partridge does pay the penalty, but that fault is out-balanced by the great good done in killing pests.

SPARROW HAWK (*Accipiter nisus*).

It is by no means so plentiful now as formerly. In former years one pair, at least, mated each season in the woods in Dardarroch.

SHORT-EARED OWL (*Asio accipitrinus*).

During the last vole plague it was quite plentiful, when I found several nests with eggs and young. Apparently the mother bird incubates on the first egg laid, as I have found in one nest eggs that were hatching and young from one day old to four or five days old. As a rule, this owl is very scarce.

LONG-EARED OWL (*Asio otus*).

Is very common, and during the vole plague some years ago was very plentiful. As a rule, it builds, or rather nests, in an old rook's or corbie's nest, although sometimes a tuft of rushes is chosen. I have seen as many as seven together in one little plantation.

BROWN OR TAWNY OWL (*Syrnium aluco*).

Like the above-mentioned, is common, but is very conservative about allowing any more of its species to intrude within its domain, and you seldom find more than one pair within a considerable area of a large wood. The female during the nesting season is sometimes quite pugnacious to any intruders. This spring, while examining the trunk of a very old yew tree, I was butted and clawed on the back of the neck by one which had young in a cleft of the tree, of which at the time I was unaware. She came darting at me again several times, but did not come close enough to strike.

BARN OWL (*Strix flammea*).

Many years ago a pair nested in the neighbourhood, but none have been noticed for many years.

GREAT TIT (*Parus major*).

Is found in considerable numbers in any wooded parts. In early spring it is much in evidence, when its sharp bell-like note is heard ringing through the woods.

COLE TIT (*Parus ater*).

Is plentiful, but not being at all obtrusive, is not so much noticed as some of the other Tits.

BLUE TIT (*Parus coeruleus*).

This is the greatest favourite amongst titmice, on account of its love of nesting and spending the most of the year round gardens and houses. It is very often misnamed "Ox-eye."

LONG-TAILED TIT (*Acredula caudata*).

It is by no means very plentiful, although flocks of twenty or thirty can often be seen feeding in company, streaming through the woods in their restless, tireless energy. The nest is very beautiful, made of green moss and lichens in shape like a wren's, but with the neatness of a chaffinch. Indeed, it is very like a chaffinch nest domed over. It generally builds early in April. It is said to be proof against electric storms, and so protecting the eggs.

PIED FLYCATCHER (*Muscicapa atricapilla*).

I noticed one early in May, in the year 1897, in the woods of Dardarroch. It is the first specimen I have known to have visited the district.

SPOTTED FLYCATCHER (*Muscicapa grisola*).

This is one of our latest summer visitors in arriving, and seldom arrives before the third week of May. A fair number are usually to be found,

KINGFISHER (COMMON) (*Alcedo ispida*).

An autumn visitor to the river Cairn, and some years is numerous.

CROW OR CORBIE (*Corvus corone*).

This bird is looked upon as both a plague to shepherds and game preservers, and despite the persecution it gets, is plentiful for a bird of prey.

RAVEN (*Corvus corax*).

It does not nest in this parish, but does so in a neighbouring one, but occasionally an odd bird is seen in the higher hills of the district; one authority says it does nest.

HOODED CROW (*Corvus cornix*).

Is seldom seen. I saw one a number of years ago during severe weather in the winter.

ROOK (*Corvus fringilegus*).

Is still plentiful, in spite of the persecution it has undergone these past few years. This spring they seemed to be more keen in hunting for eggs than I have noticed before, which, I think, must have been owing to the great scarcity of grubs, worms, etc., through the long spell of dry weather. The young rooks do not cast the hair in the upper mandible till the second year, and do not begin to breed till their third spring, I believe.

JACKDAW (*Corvus monedula*).

Is very plentiful, and nests in great numbers amongst the rabbit burrows on some of the hillsides in the upper end of the parish. They make great pets, and their many tricks are very amusing.

MAGPIE (*Pica rustica*).

Is practically extinct now in this district. Twenty years ago they nested in the woods in Dardarroch every year. Like the above, they also make very nice pets.

COMMON CREEPER (*Certhia familiaris*).

Is by no means numerous, but a fair number can always be seen in the woods all the year round.

CUCKOO (*Cuculus canorus*).

Very plentiful in the hilly districts every spring. A cuckoo's egg was found in a tree pipit's nest in the woods on Dardarroch a few years since. It is strange how few young ones are seen, although the old birds are so plentiful every nesting season.

NIGHT JAR OR GOATSUCKER (*Caprimulgus europaeus*).

A pair of these birds nest every summer in the neighbourhood, and occasionally one has been seen hovering, during the long summer evenings, around the woods on Dardarroch, hawking for moths and flies.

SWIFT (*Cypselus apus*).

Is by no means plentiful, but a few can be seen every summer.

COMMON SWALLOW (*Hirunda rustica*).

I do not suppose there is a farm steading in the county where a pair of these swallows do not nest every summer. A pair were seen as late as the 14th October, this year.

HOUSE MARTIN (*Chelidon urbica*).

It seems to be getting much scarcer, and doubtless the sparrow has a good deal to do with that, as they rob them of their nests.

SAND MARTIN (*Chelidon riparia*).

Nests in many places along the banks of the river Cairn, and also in several sand pits in the neighbourhood.

PIED WAGTAIL (*Motacilla yarrellii*).

Is plentiful during the nesting season and autumn. Nests in

dykes, cairns, and sand banks. A few are generally to be found through the winter.

GREY WAGTAIL (*Motacilla sulphurea*).

It is not nearly so plentiful as the last-mentioned bird. Prefers secluded water courses and ponds. A few remain through the winter.

MEADOW LARK OR MOSS CHEEPER (*Anthus pratensis*).

Found almost everywhere, but especially on the hills and moors, where it is best known by name of Moss Cheeper. I saw one of a canary yellow colour in August this year. A few remain all winter, but the bulk of them leave for the coast districts.

TREE PIPIT (*Anthus arboreus*).

This is a quiet bird, and not much noticed, except in spring, when every dell is enlivened by its sweet song. It is generally first heard about the middle of April. The eggs are curious, two nests seldom having eggs alike in colour.

SKY LARK OR LAVEROCK (*Alauda arvensis*).

Is plentiful both summer and winter.

“ See the lark is mounting up,
With its song the air to fill.”

—*Song of Spring.*

SNOW BUNTING (*Plectrophenax nivalis*).

I have noticed this bird during severe winters with flocks of other birds.

COMMON BUNTING (*Emberiza miliaria*).

Numerous in spring and summer, but only a few can be noticed during the winter. Although so common, the nest is very seldom found, the old birds being so watchful of the approach of intruders.

BLACKHEADED BUNTING (*Emberiza schoeniclus*).

Is found during the nesting season on the banks of the river Cairn, and beside ponds where reeds grow. Does not remain with us during the winter.

YELLOW HAMMER (*Emberiza citrinella*).

Is very plentiful both summer and winter. During the winter months they gather into flocks with many other birds, and congregate round stackyards. This bird is more correctly called Yellow Ammer.

CHAFFINCH (*Fringilla coelebs*).

Abounds in all our wooded localities during the spring and summer. During the winter months they gather together in flocks, feeding in the fields and around farmyards with other birds.

MOUNTAIN FINCH OR BRAMBLING (*Fringilla montifringilla*).

This is purely a winter visitor, and that only during severe winters. I have seen them in large flocks during such winters. Beech trees is a favourite resort.

HOUSE SPARROW (*Passer domesticus*).

Like other districts we have our full supply of this familiar bird, and it is apparently increasing year by year. One black feature in its character is that of occupying the House Martins' nests and driving them away, with the result that few are allowed to build where sparrows are in numbers.

GREENFINCH (*Ligurinus chloris*).

Remains with us the whole year in great numbers. Has two broods of young, and probably three occasionally.

GOLDFINCH (*Carduelis elegans*).

I have noticed a number of pairs this past summer, and have also seen some young ones. If bird snaring was put down they would doubtless be quite numerous in a few years. In the winter months they gather into flocks, and wander all over the country seeking for their favourite food, and thus lay themselves open to the birdcatcher.

SISKIN (*C. spinus*).

I noticed a number during the winter of 1888. They fed a great deal in the alder trees by the river Cairn.

LINNET (*Linota cannabina*).

Although called the common linnnet, it is by no means very common in this locality, except in the winter months, although a few pairs do nest in the district each spring.

RED POLE (*L. rufescens*).

This little bird is much commoner than the above. Nests frequently in the hills around where juniper and strong brush are plentiful, and during the winter feeds a great deal on the birch.

BULLFINCH (*Pyrrhula Europæa*).

This bird does not seem to increase much, although it seems generally to keep up to fair numbers; and as it is a true bird of solitude, dwelling where the spruce is thickest, with only an occasional tour of inspection to neighbouring gardens in the spring just to see that too much plum blossom is not left by the late frosts, is, therefore, not so widely known as many other birds.

COMMON CROSSBILL (*Pyrrhula curvirostra*).

During the years 1887-1888 they were quite plentiful, but did not find any nest, nor did I see any young ones, although they remained in the woods on Dardarroch for a full year without intermission. They seem to have been pretty general those two years, as I saw them in other places in the county as well.

AMERICAN WHITE-WINGED OR TWO-BARRED CROSSBILL
(*Pyrrhula bifasciata*).

I shot a pair (male and female) in Dardarroch woods in February, 1890. There were three together at the time, but have seen no more since.

STARLING (*Sturnus vulgaris*).

There is no doubt about the increasing numbers of the starling, and the apparent increasing propensities of the rook to eggs is attributed by many to the starlings eating too much of the available supply of their natural food. During the winter months the most of them leave for better feeding grounds.

DIPPER OR WATER OUSEL (*Cinclus aquaticus*).

Is plentiful in all streams in the neighbourhood. Is probably our earliest nester.

MISSEL THRUSH (*Turdus viscivorus*).

This bird is by many called the storm cock, although properly the Field Fare. It is the true harbinger by its arrival that winter is coming, and that speedily. A good many nest every spring throughout the whole district.

FIELD FARE (*Turdus pilaris*).

Purely a winter visitor ; generally arrives here by the middle of October. I have seen them here still in large flocks as late as the end of May. At that time of the year I have seen them disporting and warbling in chorus apparently as if they fully intended staying to nest.

REDWING (*Turdus iliacus*).

Arrives here at the beginning of October in considerable numbers, leaving again in April or May.

SONG THRUSH (*Turdus musicus*).

Is very numerous, no doubt owing a great deal to the decrease of hawks and other natural enemies.

BLACKBIRD (*Turdus merula*).

Is also very plentiful.

RING OUSEL (*Turdus torquatus*).

Is plentiful in its favourite haunts amongst the hills.

HEDGE SPARROW OR DUNNOCK (*Accentor modularis*).

Is plentiful both summer and winter. Its pleasing song is very familiar.

REDBREAST (*Erithacus rubicula*).

This bird is familiar to all, especially so during the winter, when the inside of a house comes as natural to him as if it was a matter of course.

REDSTART (*Ruticilla phoenicurus*).

Is one of our late arrivals, and is by no means plentiful, but is not easily noticed, as it is very shy.

STONECHAT (*Pratincola rubicola*).

Is seldom seen in this neighbourhood.

WHINCHAT (*Pratincola rubetra*).

Unlike the above-mentioned, is very plentiful, and a pair may be seen in almost any patch of meadowland or furze during the nesting season.

WHEATEAR (*Saxicola oenanthes*).

Is plentiful throughout the lower part of the parish, although a few do nest in our higher hills.

SEDGE WARBLER (*Acrocephalus phragmitis*).

A few may be either seen or heard along the banks of the Cairn any summer evening. An odd bird may sometimes be seen as late as the first week in September.

REED WARBLER (*Acrocephalus streperus*).

There is no doubt that there is a good deal of confusion with this bird and the last-mentioned, especially as their habits are so similar, but a few are without doubt to be found in this locality.

GARDEN WARBLER (*Sylvia hortensis*).

This is a very shy bird, and very little noticed unless by its rich song. It is by no means rare in this district. Arrives in May, usually about the end.

WHITE THROAT (*Sylvia cinerea*).

Is probably one of our best known and commonest visitors.

WOOD WARBLER OR YELLOW WILLOW WREN (*Phylloscopus sibilatrix*).

Is plentiful during the summer, and is very fond of oak woods, where in the beginning of June it finds such a plentiful variety of caterpillars in the young oak leaves.

WILLOW WARBLER OR WREN (*Phylloscopus trochilus*).

This bird much resembles the former, but is of a much darker olive green shade. Is also more plentiful, inhabiting the same kind of woods. Arrives early in April.

WREN, KITTY WREN (*Troglodytes parvulus*).

Is more distributed, and familiar to all. The richness of its note is seldom fully appreciated.

GOLDEN-CRESTED WREN (*Regulus cristatus*).

The Golden-Crested Wren has not been anything like as numerous, in this locality at least, since the great storm of wind in 1884, possibly attributable to the immense numbers of spruce trees that were blown down and destroyed.

WOOD PIGEON OR CUSHAW (*Columba palumbus*).

Very numerous, and apparently on the increase. At present they are in great numbers feeding on the acorns. During the month of May great flocks frequent the beech trees, apparently on their northern flight, as certainly none, or at least very few, of them breed here. During October the flocks consist to a great extent of young birds that have not got their adult plumage, and I have no doubt they are migrants from the northern breeding ground.

STOCK DOVE (*Columba aenas*).

Ten years ago this pigeon was unknown in this locality, but now may be seen in flocks of considerable numbers in the autumn. An odd pair may be seen during the nesting season, but have not heard of their nest having been found, although it is very probable a few do nest.

PHEASANT (*Phasianus colchicus*).

Of late years the pheasant has greatly increased, and appears to be taking more to the hilly districts than formerly, staying the whole year round on some of the highest and barest hills where there is no plantation near, roosting on the ground like black game and grouse. It is noticeable that broods brought out on the hills have more birds than those brought out wild in wooded districts.

BLACK GROUSE (*Tetrao tetrix*).

In the past few years black game have been plentiful, and are very liable to increase considerably if protected by those who have shootings leaving the hens free.

RED GROUSE OR MOOR COCK (*Lagopus Scoticus*).

Has been very plentiful during the past few years, this year probably marking a record.

PARTRIDGE (*Perdix cinerea*).

Wherever there is cropping you may find partridges, and in

a good season like the present in coveys of very large numbers. It has been remarked by many that however many you may leave on a hill they do not seem to increase at all. They are also very wild on the hills, and very hard to follow up and get a shot at. I noticed a brood as early as the 10th of May on one of our highest and remotest hills.

COMMON QUAIL (*Coturnis communis*).

I believe one was noticed a number of years ago.

GOLDEN PLOVER (*Charadrius dominicus*).

A few pairs nest each spring on some of the remoter hills of the district.

PEEWIT OR CRESTED LAPWING (*Vanellus vulgaris*).

Plentiful, and seemingly on the increase, doubtless through the protective laws enacted these past years. If the winter is an open one flocks remain inland. During cold weather they remain by the sea.

HERON (*Ardea cinerea*).

The Heron formerly bred in Cairnhead, but through the trees being cut and the birds shot, have not done so for a great many years. During the early autumn a good number inhabit the river Cairn and where there are good feeding grounds.

CURLEW (*Numenius arquatus*).

Considerable numbers nest each season throughout the district. They usually return from the coast about the middle of February if not severe frost, leaving in the autumn, by October.

REDSHANK OR RED LEG (*Totanus calidris*).

Five years since this bird was but a rare visitor. Now a pair may be heard, if not seen, around any marshy land in the nesting season. It has rather a melancholy pipe, which it gives fully on the slightest sign of an intruder.

COMMON SANDPIPER (*Totanus hypoleucus*).

Generally makes its appearance about the middle of April, when it distributes itself pretty well along the whole stretch of the river Cairn. Leaves for the coast not later than the end of August.

WOODCOCK (*Scolopax rusticula*).

Each season every favourable haunt has its quota of woodcocks, but never in any way numerous. A few remain as late as April, and probably a pair occasionally nest.

COMMON SNIPE (*Gallinago coelestis*, *Frenzel*).

Some seasons it is very plentiful, and others the reverse. It nests in many places throughout the district.

JACK SNIPE (*G. gallinula*).

A few are usually shot or seen during the autumn and winter. It is seldom that more than two are found together.

LAND RAIL OR CORN CRAKE (*Crex pratensis*, *Bechstein*).

Arrives here about the middle of April as a rule, and is fairly plentiful. Very few are seen after August. An occasional one is found hiding in a turnip field during September that has not its wing feathers fully fledged.

WATER RAIL (*Rallus aquaticus*, *Linnaeus*).

Is only an occasional winter visitor. Two were shot on Dardarroch a few years ago.

MOOR HEN, WATER HEN (*Gallinula chloropus*, *Lin.*).

Is plentiful on the river Cairn, and mainly places that have willows and rough cover growing alongside. Severe winters tell very hardly on this bird, and many are frozen to death. One very remarkable feature in the Water Hen is its ability to remain when pursued under water, sitting at the bottom as cosily as if it was on a bush without apparently the least exertion or inconvenience.

COOT (*Fulica atra*, *Lin.*).

Formerly this bird was seldom seen in the district, but now an odd one or two may be found on some secluded pond, and occasionally on the river Cairn.

GREY LAG GOOSE (*Anser cinereus*, *Meyer*).

As a rule, if seen at all, it is in flocks flying overhead, although some years since a few lighted on the river Cairn.

MUTE OR TAME SWAN (*Cygnus olor*).

A few pairs have been kept on private ponds.

WILD DUCK OR MALLARD (*Anas boschas*).

Fairly plentiful wherever suitable feeding grounds are to be found.

TEAL (*Querquedula crecca*).

Is probably the next commonest to the Mallard, although by no means plentiful,

WIDGEON (*Mareca penelope*).

An occasional winter visitor, especially so if the weather is severe.

SCAUP (*Fuligula marila, Lin.*).

Is, like the former, an occasional winter visitant.

TUFTED DUCK *Fuligula cristata*).

This duck has been seen much oftener than the last two mentioned, and one year a pair remained on the Cairn for some time in May,

GOLDEN EYE (*Clangula glaucion, Lin.*).

A few are usually to be found on the Cairn every winter. Although the female and young male are found, it is seldom an old drake is seen.

GOOSANDER SAWBILL (*Mergus Merganser, Lin.*).

During the early months of the year an occasional bird will be seen on the Cairn, and, as a rule, only the hen bird. I have only once seen a male.

DABCHICK OR LITTLE GREBE (*Podiceps Fluviatilis, Tunstall*).

Remains the whole year. I know of one little pond where it nests each year. During the winter it betakes itself to the river Cairn.

THE SHAG OR GREEN CORMORANT (*Phalacrocorax graculus*.)

One was noticed to haunt a pool in the river Cairn during the early spring a few years ago.

BLACK-HEADED GULL (*Larus ridibundus*).

Remains with us the whole year in considerable numbers. It was noticed that a great many died this spring during the nesting time, without doubt through lack of food, caused by the prolonged drought, which sent worms well out of sight and reach. At Loch Urr, the nearest nesting place, fully sixty per cent. of the young birds must have died through starvation, and those that survived were very weak and thin.

COMMON GULL, BLUE-HEAD, OR SEA MEW, BLUE-MAA (*Larus canus*).

Although not so numerous as the black-headed, is fairly plentiful, and is especially noticeable in the autumn. Nests as a rule near the sea.

LESSER BLACK-BACKED GULL (*L. fuscus*).

This gull may be generally noticed in April, frequenting the hill-sides in search of carrion, and even attacking lambs, especially weakly ones. In Dumfriesshire it principally breeds on the Solway Firth.

HERRING GULL (*L. argentatus*, *Gmelin*).

An occasional wanderer only.

FEMALE BIRDS TAKING THE MALE PLUMAGE.

A number of years ago I remember three grey hens being shot in one day, each of which had assimilated to a large extent the plumage of the blackcock. This season I watched a hen pheasant that was accustomed and had come for several years to be fed with bread crumbs at a certain house in the parish, which had a most complete imitation of the cock pheasant, a most perfect green neck, and white ring, but no comb nor spurs. The breast feathers lacked the rich black tips and sheen of the male, otherwise the imitation was most exact.

Mr Service said he had listened with exceeding pleasure to Dr Martin's paper. Considering that Glencairn was an inland parish far removed from the sea, and without large sheets of water, and sea birds consequently being rare, the list Dr Martin had given was a very good one. It also contained many notes of interest and value. He noticed with peculiar pleasure

that Dr Martin referred to his observations on the Night Jar in his own vicinity. By way of criticism, he would like to say that, while Dr Martin mentioned that the Crossbill did not breed in Britain, that was an error, because it had bred in the district within his own recollection, as far back as the time when he was a very small boy, in Dalswinton, where it was found for many years breeding. At present there was a pretty large flock in Hensol woods, where they bred. They also bred at Shambellie, in the large woods there. The Crossbill, however, bred so unusually early in the year that most people in looking for them breeding in February and March like other birds, only found the young fledglings of the Crossbill already out and in full flight. Dr Martin also said that he had seen numbers of the Reed Warbler. He could not quite understand to what particular bird he was referring, because, as a matter of fact, the Reed Warbler was one of the rarest stragglers in Scotland. Even in the southern part of Cumberland it was also rare. Dr Martin mentioned a theory that the elaborately constructed nests were made for the purpose of resisting electrical influences. He (Mr Service) was afraid that that theory was just a little fanciful. Another criticism he would like to make was, that Dr Martin had employed a rather ancient and antiquated classification. Matters of classification and nomenclature were rather beside the question, because, so long as they had the facts, these things were quite subsidiary. At the same time he thought the paper was of real value, and they could not have too many of the kind, the observation of birds being one of the most fascinating pursuits in the wide domain of natural history. The most charming of English classics was founded upon the observation of birds, *i.e.*, "White's Natural History of Selbourne." If they had every parish in the three counties worked out in the same way as Glencairn had been, it would be possible then to have a complete history of the fauna of the Solway.

The Chairman having conveyed the thanks of the meeting to the contributor,

Dr Martin, in replying, said he was glad such an authority as Mr Service thought Glencairn had been properly worked. He was sorry that the classification was not quite up-to-date, but he thought Pennant's classification was very good. However, it could be easily altered for publication. It was generally accepted that Crossbills did not nest in this country, and, not having found

any, he had concluded that it was so. The Warblers were a fairly numerous family, and it might be that he had been slightly in error regarding them.

17th January, 1902.

Mr JAMES BARBOUR, F.S.A., Scot., Architect, in the chair.

COMMUNICATIONS.

I.—*Meteorological Report for 1901.* By the Rev. WILLIAM ANDSON.

THE WEATHER OF 1901.

The only preliminary remark I have to make before submitting this annual report of meteorological observations at Dumfries for the past year is that the instruments used were inspected by Dr Buchan, the secretary of the Scottish Meteorological Society, on the 27th August last, and, on being compared with his standard instruments, were found to retain their former accuracy, the variations in the case of the thermometer not being more than two-tenths of a degree, and in the case of the barometer of rather less than two-hundredths of an inch, which practically may be regarded as negligible quantities.

BAROMETER.—Beginning with the barometrical pressure, the following are the leading facts:—Barometer—Highest on 23rd May, 30·660 in. ; lowest on 25th December, 28·600 in. ; annual range, 2·060 in. Mean pressure for the year (reduced to 32 deg. and sea level), 29·925 in. This is slightly above the average of the last fifteen years, which was 29·904 in. There were six months in which the mean pressure exceeded 30 in., viz., February, May, June, July, August, and November. The lowest monthly mean occurred in December, amounting to no more than 29·515 in., and this was the month in which the most changeable and unsettled weather was recorded. It had the absolute minimum of barometrical pressure for the year, viz., 28·600 in. on the 25th, and the readings of the 23rd, 24th, and 26th were almost

Report of Meteorological Observations taken at Dumfries during the year 1901.

Lat., 55° 4' N.; Long., 3° 36' W.; Elevation above sea level, 60 ft.; distance from sea, 9 miles.

1900. Months.	BAROMETER.			S.-R. THERMOMETER. In shade, 4 feet above grass.					RAINFALL.			HYGRO- METER.		Dew Point.		Relative Humidity. Sat. = 100.	
	Highest in Month.	Lowest in Month.	Monthly Range.	Mean pres- sure of Month.	Highest in Month.	Lowest in Month.	Monthly Range.	Maximum.	Mean Minimum.	Mean temper. of Month.	Heaviest in 24 hours.	Amount for Month.	Days on which it fell.	Mean Dry.	Mean Wet.		Deg.	Deg.
Jan.	30.513	28.976	1.537	29.923	50.	25.5	24.5	43.1	33.7	38.4	0.38	2.47	20	37.4	36.2	34.5	89
Feb.	30.597	29.211	1.386	30.055	49.	21.5	27.5	43.	31.5	37.2	0.43	0.89	12	34.	32.6	30.1	85
Mar.	30.537	28.760	1.777	29.762	57.	18.3	38.7	46.5	33.4	40.	0.58	1.86	14	39.1	36.3	32.7	78
April	30.177	29.010	1.167	29.760	74.5	28.	46.5	56.1	37.8	47.	1.00	3.23	16	45.	42.4	39.4	80
May	30.660	29.145	1.515	30.145	75.	34.8	40.2	65.8	42.	54.	0.80	2.37	10	54.	49.	44.1	69
June	30.467	29.400	1.067	30.001	79.6	40.5	39.1	65.1	46.8	56.	1.08	3.08	13	55.8	51.3	47.	72
July	30.410	29.670	0.740	30.112	91.	44.	47.	75.4	53.8	64.6	0.73	1.88	9	63.5	60.	57.1	79
Aug.	30.496	29.337	1.159	30.006	80.7	42.5	38.2	68.	50.4	59.2	0.77	3.78	16	58.1	54.6	51.4	78
Sept.	30.285	29.345	0.940	29.873	71.	35.5	35.5	63.3	48.2	55.8	0.90	2.82	16	55.9	53.3	50.9	84
Oct.	30.529	29.091	1.438	29.845	69.3	30.8	38.5	55.5	41.	48.3	0.80	4.78	23	47.4	45.5	42.3	87
Nov.	30.613	29.065	1.548	30.109	54.	19.5	34.5	47.	35.6	41.3	0.65	2.89	14	42.3	40.	37.1	83
Dec.	30.317	28.609	1.717	29.515	52.	22.	30.	41.1	32.8	37.	0.91	4.43	24	39.	37.4	35.6	87
Year..	30.660	28.600	2.060	29.925	91.	18.3	72.7	55.8	40.6	48.2	1.08	31.48.	187	47.6	44.8	41.7	81

WIND—

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Var. or Calm.
Days ...	17½	40½	41	38	28½	80½	57	50	9½

equally low, ranging from 28·630 in. to 28·956 in. On only other two months of the year did the readings fall below 29 in., once on 27th January, and four times in March, on the 1st and 2nd, and again on the 30th and 31st, and in all these days the weather was more than usually stormy, with heavy snow and sleet on the first date, which caused flooding of the river to the depth of about 10 feet, and snow, hail, and sleet on the last, which also resulted in heavy flooding. On the 12th and 13th November, with a fall of the barometer to 29·061 in., there was a severe north-easterly storm which caused much damage both on sea and land, and again about the same date in December there was a similar storm from the north-east, accompanied in England by heavy rains and in Scotland for the most part by snow, which caused great destruction of the telegraph wires and serious interruption of the communication between the south and north; but the greatest fall was about Christmas, and was accompanied towards the end of the year by strong gales and heavy falls of snow, sleet, and rain, and in consequence of the melting of the snow on the higher grounds the greatest flooding of the year was recorded on the morning of the 1st January, when the river rose to the height of 11½ feet, and the Sands were completely covered.

TEMPERATURE IN SHADE (FOUR FEET ABOVE GRASS).—The highest reading of the protected thermometer during the year occurred on the 20th July. There was a thunderstorm on that day, and the thermometer rose to the unprecedented height of 91 deg., which was not only the absolute maximum of the year, but the highest single day reading of the fifteen years to which the observations extend. The lowest reading of the year was 18·3 deg. on the 29th March, an unusual period for such extreme cold, giving an annual range of 72·7. It may be remarked here that March was on the whole a cold and backward spring month, especially in the second half, with frost and snow at the very end, and the same thing was true of the first part of April, verifying in a remarkable degree the old saying, "March borrowed from April three days and they were wild." And this led to the apprehension at that time of a late harvest. The year as a whole, however, was far from being unfavourable in point of temperature. The only months which had means below the average were February, March, June, November, and December, the aggregate

deficiencies amounting to 7·7 deg. The other months were either up to or above the average, the excess being 13·4 deg. The largest excesses were in May and July, the latter of which had a mean of 64·6 deg., being 5 deg. above the average, and the former more than 2 deg. May was an exceedingly favourable month, and July oppressively warm. It may give a more definite idea of the kind of weather in May and July if I specify the number of days in each month which had maximum temperatures of 70 deg. and above in the shade. In May there were twelve, ranging from 70 deg. to 75 deg. In June there were only three. But again in July there were twenty-five, and of these seven were above 80 deg. and one 91 deg. In August there were thirteen, and one up to 80 deg. Thus the cold of the early spring months, and even of June, were more than compensated by the unusual warmth of May and July, which was extended also into August, and the result was that the harvest, instead of being later than usual, as was at one time feared, was earlier and also excellent in quality. Hence we are prepared to find that the mean annual temperature of 1901 was somewhat above the average. The mean of 15 years is 47·8 deg. It has ranged from 46 deg. to 49·5 deg. This last year it is 48·3 deg. The warmest years of the period were in 1893, when it was 49·4 deg., and in 1898, when it was 49·5, and the only other years on which it was in excess of that of 1901 were 1896 with a record of 48·5 deg., and 1899 with a record of 48·6 deg. Thus there have been only four years out of the fifteen with a higher mean temperature than 1901. The coldest month was December, with a mean of 37 deg., as compared with an average of 39·2 deg. But February and March were also very cold months, and even June was about 3 deg. short of its average. If it had not been for these drawbacks, involving 74 nights on which the protected thermometer fell to and below 32 deg., with an aggregate of 302 deg. of frost, the year would probably have been as warm as either 1893 or 1898.

RAINFALL.—There were 187 days in 1901 on which rain or snow fell (rain 169, snow 18). Mean of 15 years, 199. The heaviest fall in 24 hours was on the 22d June, when the amount registered was 1·08 in. There was only one other day on which the amount was up to 1 in., viz., the 2d April. The rainiest month was October with a record of 4·78 in., and the next was

December with 4.43 in., which, however, was very little in excess of the average for that month. But the year as a whole was far from being a wet one, the total amount being only 34.48 in., as compared with an average of 37.44 in. The annual rainfalls for the last fifteen years have ranged from 30.99 in. in 1887, which was the driest, to 47.08 in. in 1900, which was the wettest, and ten of them have been heavier than that of 1901. The explanation of this, of course, is that most of the months had a record under the average, and only April, June, August, and October above. February and March were comparatively dry months, the former being the only one which registered less than an inch. The members of the society are aware that in many parts of the country, and especially in England, the rainfall was so deficient last year as to cause serious inconvenience from scarcity of water. This has not been the case in our own district. Nevertheless there were occasional periods which might justly be called periods of drought. The first of these was in February, when from the 1st to the 25th only 0.18 in. of rain fell. Again, in March, from the 8th to the 20th, with only three days of slight rainfall; in May, from the 10th to the 25th, of rainless days. But the most serious drought was from the 25th June to the 14th July, during which period not a drop of rain fell, the effect of which was aggravated by the heat which then prevailed. One thing that may be noted in connection with the past year is the number of days on which snow fell. Not unfrequently snow is conspicuous by its absence, but it has not been so in 1901. I have noted that in January there were three snowy days, in February four, in March one, in April three, and in December seven—18 in all. In December particularly we had something like an old-fashioned winter, with unmelted snow upon the ground for a considerable part of the time, and although I do not possess the means of registering the amount of sunshine the general testimony is that in the summer months it was considerably above the average.

HYGROMETER.—The mean temperature of the dry bulb thermometer for the year was 47.6 deg., of the wet bulb 44.8 deg., giving a difference of 2.8 deg.; while the temperature of the dew point was 41.7 deg., and the relative humidity (saturation being equal to 100) 81. This is a somewhat lower humidity than the

average of the past fifteen years, which would be about 83, and corresponds with the smaller rainfall of the period.

THUNDERSTORMS.—These have been more frequent than in former years. There was sheet lightning on the 1st January, and again thunder and lightning on the 27th in connection with the severe storm of that day. There were none in February, March, or April, as far as I observed. But there was one on the 3d May, another on the 14th July, and a severe and protracted storm on the 20th of the same month. On 10th August there was thunder and lightning from 7.30 to 1.30 P.M., with very heavy rain. Again, on 2nd October, about midnight, and on the 22nd, there was a recurrence of the same phenomenon, and once more on the 8th December. This makes a record of nine in the course of the year, which is, I think, decidedly in excess of previous years.

WIND.—With regard to the wind direction, these do not differ materially from those reported in former years. As usual the south-westerly blew on the greatest number of days, viz., $80\frac{1}{2}$, the westerly came next with 57, and the north-westerly with 50, the southerly had $28\frac{1}{2}$, making in all 216; while the northerly, north-easterly, easterly, and south-easterly amounted to 137 days, and 9 were calm or variable.

The Rev. Mr Andson read the following paper by Mr JOHN RUTHERFORD, Jardington :—

Phenological and Weather Observations, taken at Jardington for 1901.

JANUARY.

Rainfall, 2·8 inches. Weather mild; lowest night temperature, 20 deg., F.; highest, 44 deg. Nearly the whole of the month the temperature was above freezing at 9 A.M. The lowest barometrical reading was 29·1 on the 27th with a stormy night; the highest on several days was 30·4. Heard the song thrush trying his voice on several fine mornings after the 18th, and when the sun was bright repeatedly heard the cheery warble of the water ousel.

FEBRUARY.

Rainfall, 0·62. Barometer—lowest, 29·3 inches on the 27th ; highest, 30·6 on the 15th. The weather was mild during the month. There was a very hard frost on the night of the 12th, when the thermometer registered 20 deg. of frost. The hazel came into bloom on the 12th.

MARCH.

Rainfall, 2·15 inches. Barometer, lowest, 28·9 ; highest, 30·5 inches. First half of the month was mild, showery weather. The later half was cold east wind, with four nights of very hard frost from the 26th to 29th. There was $1\frac{1}{2}$ inch of snow on the 30th which went away in a day. Coltsfoot flowered on the 23rd. Sowing oats began on the 25th.

APRIL.

Rainfall, 3·12 inches. Barometer, from 29·15 to 30·2 inches. There was a little frost on three or four nights during the month, while the day temperature was high. By the 7th the fields were looking nice and green, and lawns required cutting. Wood Anemone flowered on the 4th, blackthorn on the 23rd. Saw first Wasp on the 17th, and Swallow on the 21st, and heard Cuckoo on 29th.

MAY.

Rainfall, 1·85 inches. Barometer, from 29·2 to 30·6 inches. There was a trace of frost on two nights, but the month on the whole was warm and growing and May-like. I see on many of the days the temperature at 9 A.M. was between 60 and 70 deg. Small White Butterfly first seen on 1st, Corncrake heard on 18th, Horse Chestnut flowered on 11th ; Hawthorn on 21st. Queen Wasps were very plentiful during the first half of the month.

JUNE.

Rainfall, 3·26 inches. Barometer, lowest, 29·5 ; highest, 30·45. The weather during the month was very warm, with just sufficient rain to keep all kinds of crop growing healthy ; few of the turnips round here required to be re-sown, and I saw very little of that new disease on the shaws of the young plants which was prevalent for one or two years before. Ryegrass a fair good

crop, and ready for cutting about the 26th. Wild Rose flowered on 7th; Meadow Brown Butterfly seen on 29th.

JULY.

Rainfall, 1·5 inches. Barometer, lowest 29·8 to highest 30·35. Very warm during the month. The lowest night temperature was 40 deg.; the 9 A.M. temperature would have a mean of between 70 and 80 deg. There was a good deal of thunder. Grass and other crops made satisfactory progress, and except on gravelly soils there was not a great deal of harm done by the dry warm weather. The Harebell came into bloom on 7th; Black Knapweed on the 15th.

AUGUST.

Rainfall, 4·1 inches. Barometer varied from 29·45 to 30·6 inches. This was a fine warm month, with high night and day temperature. Harvesting commenced on the 1st. Corn crops not so heavy as last year; but having got much more sun the straw and grain are of excellent quality, and most of the crop standing.

SEPTEMBER.

Rainfall, 2·8 inches. Barometer, lowest 29·5 to highest 30·3 inches. I think I may say with confidence that this has been an ideal summer in every sense. Although Queen Wasps were very numerous in the beginning of May, scarcely a wasp was to be seen till well on to the end of the summer, when they became very plentiful and were very destructive to the fruit crop.

OCTOBER.

Rainfall, 4·6 inches. Barometer, lowest 29·15 to highest 30·5 inches. There was a trace of frost on three nights, with a fairly high day temperature. Rain fell less or more on every day but the last, which hindered potato digging. The fine dry growing summer and autumn was favourable to the growth of this crop, the shaws remaining green till the beginning of September. The disease did not come on before the tubers were at maturity, and a large crop of fine quality is the result.

NOVEMBER.

Rainfall, 2·82 inches. Barometer, lowest 29·3 to highest 30·6

inches. On the nights of the 15th and 16th we had about 20 deg. of frost, and some stormy weather followed. Conjunction of Jupiter and Saturn with Venus a little to the South on the 28th, at 6 A.M. The three planets were very conspicuous and interesting for some days. This will not occur again for 20 years.

DECEMBER.

Rainfall, 4·4 inches. Barometer, lowest 28·7 to highest 30·3 inches. Although we have had during this month stormy weather, and a little snow during the last 10 days, we have had no continued severe frost; and even during the last week, when the roads were covered with ice, the hardest was on the night of the 28th, when there was 10 deg. of frost; thermometer at 9 A.M. was 31 deg. Saw a solitary Gray Wagtail on 15th; have not seen one since. Notes and observations in this paper apply to this locality only.

Rainfall in 1901.—January, 2·8 inches; February, 0·62; March, 2·15; April, 3·12; May, 1·85; June, 3·25; July, 1·5; August, 4·1; September, 2·8; October, 4·6; November, 2·82; December, 4·4; total, 34·01 inches—between 4 and 5 inches under the average. Dumfries Rainfall, 34·48; Cargen do., 42·44; Drumpark do., 45·36; Drumlanrig do., 43·91.

III.—*Phenological Observations taken at Moniaive during 1901.* By Mr JOHN CORRIE.

The short spell of genial weather which prevailed during the earlier portion of March was followed towards the close of the month by a sudden fall in temperature. Snow fell on the 26th and on the 29th March, and low readings of the thermometer continued throughout the greater part of April. Fine weather, dry and warm throughout the day with only slight frost at night, prevailed from the last week of April until almost the close of May. Rain fell on the 26th May, and as dry knolls had commenced to brown the change was a welcome one. The early portion of June was extremely variable. High temperatures ruled on the 7th and 8th, but from the 9th to the 13th a succession of cold gales, accompanied by rain, was experienced. The gale on the evening of the 10th was very destructive to tender vegetation. Pear, Apple, and Plum tree foliage suffered severely; also

the foliage on ornamental forest trees, such as the Horse Chestnut. Hail fell on the afternoon of the 12th June, and the temperature shortly afterwards became normal. The later portion of the month and the first three weeks of July were remarkable for warmth. On some days the thermometer registered 78 in the shade. Thunderstorms of a somewhat violent character visited the district on the 14th July, the 20th July, and the 10th August. By the 20th of July hay harvest was practically over. The crop, although deficient in bulk, was of first-rate quality, and must have been secured at a minimum of cost and trouble. Corn harvest commenced in the second week of August (an unusually early date), and by the end of the month the work was generally over. These few notes descriptive of weather conditions seem a fitting introduction to my phenological observations. The Coltsfoot, thanks to a genial March, was found in flower on the 10th of the month. The Hawthorn was first observed in blossom on the 31st May. The following are the flowering dates for the other plants scheduled by the society:—White Ox Eye, 1st June; Dog Rose, 13th June; Harebell, 6th July; Greater Bindweed, 11th July; Black Knapweed, 19th July; Ivy, 13th October. The Sand Martin was first seen on the 4th April. The House Martin was not observed until the 10th May. The Swallow arrived on the 18th April, and the Cuckoo on the 26th April. The Swift, once common, seems to have deserted the district. The Willow Wren and the Spotted Flycatcher were found nesting on the 2nd June, both with their full complement of eggs. The small White Butterfly was first seen on the 2nd May. The Marsh Ringlet was seen on the 30th June, and may have been present earlier. The Meadow Brown is recorded for 3rd July. A female Saw Fly was captured on the 19th July. Wasps were late in putting in an appearance, but became plentiful as the season advanced. A Nightjar was seen in the heart of the village at 8.35 p.m. on the 15th August. A few Swallows remained until the 16th Sept. The House Martin was last seen on the 6th October. It will be understood that the date of my appointment as an observer was too late for me to record the flowering of the Hazel and the singing of the Thrush.

21st February, 1902.

The Rev. WILLIAM ANDSON in the chair.

Donations and Exchanges.—Proceedings of the Academy of Natural Science of Philadelphia, 1901; Birds of Western New York, by E. H. Easton; Annals of the New York Academy of Science.

COMMUNICATIONS.

I.—*The Fauna of Glencairn.* By Dr MARTIN, Holywood.

Perhaps, after the birds, the most important group to take up is the fauna of a district. By fauna is meant the animals peculiar to a given district or county as distinguished from those that are imported, and, of course, have no relation to tame animals. The district of Glencairn affords examples of the common wild animals of the south of Scotland, and I do not know that there are any but will be more or less familiar to everyone. We have seen that birds play a great part in the economy of things, and I hope we shall leave this paper with the impression that our hairy and fur-coated friends are not wholly without their use, and not to be classed as vermin altogether—that is, as voracious ones that should be wantonly destroyed. Let us try to enter into the spirit of all things in taking up these little individuals, and, besides noting their use, give them a place in the poetry and spirit of every-day existence.

The fauna of the United Kingdom beyond a few very rare and remotely distributed species is fairly well distributed throughout the length and breadth of the land, and to mention those found in a single county or even parish includes fairly well the full list, as those that have been noticed in the district of Glencairn will show.

COMMON SQUIRREL (*Sciurus vulgaris*).

The squirrel is known to everyone probably as much from its amusing habits as from the pleasure and sport most boys brought up in the country have in chasing and pelting him with stones as he escapes from tree to tree, leaping from branch to branch, sometimes with such haste and daring across some yawning gulf

between two stalwart monarchs of the woods, that it appeared as if stayed for a moment in mid-air to be dashed to the ground, only to be saved by clutching some waving twig that seemingly had stretched out its kindly tendrils in aid of its frolicsome friend. Since the severe wind storm of some ten years ago which blew down so many spruce trees, squirrels do not appear to have been quite so plentiful, whether from lack of food or warm shelter it is difficult to tell. They have young early in spring, usually in the beginning of April, having from three to five in a brood. I remember two young ones, still blind, taken from their nest and given to a cat to suckle. The cat was as proud and careful of its foster children as of its own kittens, and was friendly and kindly to the squirrels after they were full-grown. Strange to say this same cat was an immense poacher, even killing and bringing home squirrels from the woods, although its own foster children were still about it.

WATER VOLE (*Arvicola amphibius*).

On account of its very shy habits the Water Vole is probably less known than its numbers warrant. All such beasties go under the name of rat, whether vole or grey rat of farmyard celebrity. Wherever there is a stretch of water, be it stream or pond, there you will find among other rats the water vole, especially so if the soil is soft and congenial to the growth of water plants that have succulent roots and stems. The usual colour is a rich brown, but black ones are far from uncommon. They are expert divers and swimmers under water, and it takes a good dog to again find one once it has slipped off from the water edge into a good-sized pool.

FIELD VOLE (*Arvicola agrestis*).

This species, about the size of an ordinary mouse of a greyish brown colour and short tail, is probably best known on account of its periodic ravages of our pastures. It is exceedingly prolific, breeding many times during the year, having from four to six in one litter. Its usual food is grass roots, but it is a torment to gardeners on account of its love of crocus roots. During the past century its ravages have been noted in the years 1813-14, 1874-76, and in 1892, when Dumfriesshire fell a special victim. It is estimated to have extended at that time in this county as a scourge over from eighty thousand to ninety thousand acres of

pasture land. It does not seek safety in holes as readily as is usually the case with such species, and is therefore very easily killed with a good dog.

BANK VOLE (*A. glareolus*).

This species may almost be said, from external appearance, to be a go-between 'twixt the field vole and the field mouse, which it greatly resembles in colour. Its tail is a third longer than that of the field-vole, and it has more prominent ears and eyes. It is found round gardens and woodlands, but is never very plentiful. The Bank Vole devastated plantations in 1863, eating the bark of the trees.

BROWN RAT (*Mus decumanus*).

This is doubtless one of the most widely distributed and best known of rodents, and needs no description. It is omnivorous, and takes as kindly to a crust of bread or an ear of grain as to a good fat duckling. When it survives its many enemies and reaches full maturity it attains a large size and makes a fierce fight with a dog. It is said to have first reached England from the East early in the 18th century.

HOUSE MOUSE (*Mus musculus*).

Is like the above, common, and known to all. When kept in confinement you may have white, black, and brown ones, the same as we have in tame rabbits.

LONG-TAILED FIELD MOUSE (*Mus sylvaticus*).

This species is much larger and of a rounder shape than the Field Vole, and its tail is fully as long as its body. It is of a bright reddish brown colour, with white breast and belly, with a little touch of greyish brown shading down the throat. Its ears are prominent, and it has large luminous black eyes. It is not much seen, but is not scarce. Occasionally it invades outhouses, especially if roots are there stored.

COMMON SHREW (*Sorex vulgaris*).

The Shrew may be found in any pasture field or wood that has a clothing of grass beneath. It is probably as plentiful in Glencairn as it usually is in other places. It feeds on insects,

worms, and beetles. It is often found lying dead without any trace to account for its death.

WATER SHREW (*Sorex fodicus*).

Is peculiarly adapted for water existence by reason of stiff cilia to the sides of toes and under surface of tail. It feeds on insects and fresh water crustaceans, and may be observed working amongst stones in shallow streams. It is a pretty object to see with its little broad body so hunting in deeper water. It cannot be said to be common in this district.

LESSER SHREW (*Sorex pygmaeus*).

It may be recognised by its diminutive size and a few minor points of difference of structure, as compared with the common shrew.

COMMON MOLE (*Talpa europaea*).

This is another of our fauna that is known to all, more by the little mounds of earth it puts up than by the animal itself, unless that be a dead one, as it is not everyone who has seen a live Mole. When above ground it is about as much from home as a fish is out of water. Worms, slugs, beetles, and the larvæ of the last-mentioned comprise its diet, although it has been noticed to seize small birds feeding in its mounds.

HEDGEHOG (*Erinaceus europæus*).

Though a good deal persecuted this animal keeps up its numbers, and on a summer evening it may be seen hunting much more rapidly than most would suppose for slugs, insects, etc. They also eat eggs and kill snakes—according to popular belief by seizing the snake by the tail and rolling into a ball, allowing the snake to beat itself to death on its prickly spines. The young are a pinky white, and the soft spines gradually darken as they grow older and stiffer.

The true explanation is the greater resistance of the blood of the Hedgehog against snake poison and other poisons.

COMMON BAT (*Vesperugo pipistrella*).

This, the smallest and best-known British Bat, is fairly common. As a rule, it hawks about shady glades and edges of woods towards dusk, though occasionally one may be seen either in the

early evening long before dusk or late in the morning flying about in quest of gnats, etc. Occasionally one may be noticed as early as March if the weather is mild, also as late as the end of October. Its colour is rich dark brown over the back, with a mousy grey over the belly. The ears are very small and mouse-like. I have secured a specimen already this year, which was shot flying about with another in this locality.

DAUBENTON'S BAT (*Vespertilio daubentonii*).

Not observed by writer but by others.

LONG-EARED BAT (*Plecotus auretus*).

Not so common as the short-eared. It prefers the tiled roofs of houses, which are non-existent in this district.

COMMON FOX (*Canis vulpes*)

A few are killed each year in our upper districts. This not being a hunting locality, it is no crime to shoot reynard at sight, and is, therefore, not numerous enough to do a great deal of mischief.

COMMON WEASEL (*Mustela vulgaris*).

Although the weasel is universally looked upon as a dread to the safe upbringing of game, it has a worse name than it rightly deserves, and in reality does a great deal of good in hunting down rats, mice, and various insects, although a young rabbit, pheasant, or partridge do not come amiss if in their path. In early autumn as many as seven or eight may be seen apparently hunting together, probably the members of a family.

STOAT (*Mustela erminea*).

Here we have a true destroyer of game, and woe betide the covey of young pheasants, grouse, or partridges that comes in his way. He is verily a true blood-sucker, and is a continuous scourge to game preserves. It is a very common occurrence to see a stoat running down a rabbit, though the rabbit is so paralysed by fear that it is unable to run either far or long. In winter it takes on a fine white coat, and is a beautifully soft fur. Although considerably trapped, there are still numbers well distributed throughout the district.

OTTER (*Lutra vulgaris*).

This is another of our wild animals that is better known in name than in person. He is a true night roamer, and it is only the night fisher—a poacher maybe—that has a chance of seeing him as he is. To many he is probably better known by the marks of his ravages, by some choice trout lying half eaten by the edge of a favourite pool. Trout, salmon, and eels no doubt are his favourite food, but I have also watched one hunting for crustaceans underneath the small stones by the river's edge. Although a very shy animal by day, he is not so easily disturbed at night when feeding, and may be approached very close if no noise is made. A hole by the river's edge is his favourite hiding place, although one is occasionally bolted from a rabbit burrow a long distance from water. Three young ones at a time must be a usual number, as I have many times seen that number together during an August flood when flooded out of their retreats.

ROE DEER (*Capreolus Caprea*).

Formerly they were fairly numerous, but they are now very scarce, owing to their destruction on account of their alleged habit of feeding on the shoots of young trees.

RED HARE (*Lepus europæus*).

This fine animal is getting, alas! too scarce in many parts of the county, and it is only where the proprietor and tenant go hand in hand in protecting it from wanton destruction that its numbers are at all considerable. There is no finer game in this county, be it fur or feather, than the hare, and it seems a cruel shame to see the way some farmers persecute them for the sake of the few shillings they fetch in the market. It is not an animal that gives much sport to shoot, but is always a welcome addition to the bag from the table point of view. A number of years ago coursing by greyhounds was a popular sport, but has been out of vogue in this district for many years now.

BLUE HARE OR MOUNTAIN HARE (*Lepus timidus*).

On the higher hills of the district an occasional mountain hare is seen or shot, but this breed never has increased much beyond a few. It is not so large as the red hare, but is almost as good eating. During the winter it becomes white, with a few dark

hairs standing out in the fur as if to lend a greater purity to its winter coat. The tip of the ears remains dark.

RABBIT (*Lepus cuniculus*).

It seems hard to believe that about fifty years ago rabbits were almost, if not, non-existent in this district, where now you can scarcely traverse a field, hillside, or wooded patch without putting up one. When allowed to run riot it does a great deal of damage and harm, but when kept in proper subjection it is doubtless a source of some profit and pleasure to the farmer. Like the brown rat, it is wonderously prolific, and the amount of progeny one pair can produce in a single breeding season is enormous. In this district it is numerous from the lowest valley to the highest hill. It is common to find one with malformed front teeth, one growing straight out from the jaw for as much as two inches, the other teeth curving inwards, where in time they would cause the death of the unfortunate animal. These malformations are no doubt caused through an accident to the teeth or jaw, usually a shot wound either in the teeth or in the jawbone. Black ones and white ones are common, although in their true wild state grey is the natural colour.

BLACK RAT (*Mus rattus*).

Extinct in the memory of the senior generation; was smaller than the Brown Rat.

FOUMART (*Mustela putorius*).

Attacked poultry yards and game; confined now to inaccessible retreats.

II.—*Edward I. at Sweetheart Abbey.* By E. J. CHINNOCK, LL.D.

The historical field of Dumfriesshire and Galloway has been so well reaped and gleaned by our Society that it is very rarely that anything fresh can be brought forward. But I think that I have picked up one little stray stalk passed over by the gleaners, which I now proceed to hand into the garner of our "Proceedings." After crushing Wallace, Edward I. spent a considerable time in reducing various parts of Scotland to subjection. He met with vigorous resistance at Carlaverock, but after a long siege, took the castle about July 10, 1300. My old friend, the

late Mr M'Dowall, in his History of Dumfries, gives a full description of the siege. Just as Edward was completing the subjugation of the country, the Pope Boniface VIII. laid claim to Scotland as a fief of Rome, and bade the King to cease molesting the Scots. Neither Pope nor King had the slightest claim to the country, but the latter determined to resist the Pope's extraordinary assumption, which was made in a bull dated at Anagni, 27 June, 1299. The Pope sent the bull to Robert Winchelsea, Archbishop of Canterbury, with a letter in which he told him to deliver it to Edward with his own hand. The Archbishop, accompanied by a papal envoy, Lumbardus, did so at Carlaverock, 24 August, 1300, according to the histories. So says Burton and so says M'Dowall. This scene was an important event in the history of Scotland and a still more important one in that of England. But in reading Bishop Stubbs's Constitutional History I find that the date of the interview is given 27 August, 1300, and the scene Sweetheart Abbey. I find that Edward was not at Carlaverock in August, 1300. After taking the castle he marched through Galloway and advanced as far as Irvine. He did not leave Galloway till the end of October. Mr Hunt in his Life of Edward I., and Professor Tout in his Life of Winchelsea in the Dictionary of National Biography, agree with Bishop Stubbs in the place and the date. There is no doubt of the correctness of these facts, as they are derived from a letter from Winchelsea himself to the Pope, dated Otford, 8 October, 1300, in which he relates in detail his long journey to Carlisle, the difficulty he had in reaching the King, his perils from the sea and the Scots, and lastly his interview with Edward at Sweetheart Abbey on 27 August, 1300. See Chronicles of Edward I. and Edward II. (*Annales Londinenses*, pages 104-108, Rolls Series). Sweetheart Abbey was quite new when this celebrated event occurred, having been founded only twenty-five years before by Devorgilla. The chronicler, Walsingham, tells us that Winchelsea added an exhortation of his own to the Pope's command; and spoke of the safety of the citizens of Jerusalem and how those who trusted in God were as Mount Zion (Psalm 125, 1). "By God's blood," shouted the King, "I will not hold my peace for Zion, nor keep silence for Jerusalem (Isaiah 62, 1), while breath is in my nostrils, but I will defend my right that is known to all the world with all my might." In acknowledging the

receipt of the bull, he told the Pope that "it is the custom of the realm of England that in matters touching the state of the same realm there should be asked the counsel of all whom the thing concerns." This is a repetition of the statement already made by Edward when he summoned the model Parliament of 1295, which established the representation of the Commons. "That which touches all shall be approved by all; it is very evident that common dangers must be met by measures concerted in common."

The interview at Sweetheart Abbey between Edward, Winchelsea, and Lumbardus is interesting to the student of English history, because it brought about the first statement from King and Parliament declaratory of the fact that England was free from the Pope's dictation. This was the first step in the movement which ended in the Reformation under Henry VIII. The King summoned a Parliament which met at Lincoln in January, 1301. A letter was drawn up by the Barons and sent to the Pope, affirming that the Kings of England never have answered or ought to have answered touching any of their temporal rights before any judge, ecclesiastical or secular, by the free pre-eminence of the state of their royal dignity and by custom irrefragably preserved at all times.

I have consulted the Chronicle of Matthew of Westminster, and find that he also states that the Archbishop of Canterbury in writing to the Pope said that he met the King at the New Abbey of Duzquer in Galloway. On consulting Dr Wilson, of New Abbey, I find that Duzquer is a corrupted form of Doux Cœur, the Norman translation of Dulce Cor (Sweet Heart). The Norman form Douzquer was a frequent name for the Abbey in Plantagenet times.

14th March, 1902.

Mr JAMES BARBOUR, F.S.A. Scot., Architect, in the chair.

Donations and Exchanges.—Annals of the New York Academy of Science, Vol. XIV., pt. 1; Annual Report of the Bureau of American Ethnology.

Exhibits.—The Treasurer exhibited, on behalf of Mr James M'Cargo, Kirkpatrick-Durham, a rubbing of a sculptured stone found at Kirkpatrick-Durham.

COMMUNICATION.

“*The Irvings of Hoddom.*” By Mr GEORGE IRVING, Corbridge-on-Tyne.

There is no accurate account of when the ancestors of the Irvings, called “The Dukes of Hoddom,” first settled there, but it was probably about the end of the twelfth or beginning of the thirteenth century. Whether they came from Ayrshire or Normandy is not quite certain. The more generally recognised view is that they migrated from Cunningham in Ayrshire. When the Irvings were first induced to leave Ayrshire and settle on the Scots border to form a border guard, they planted themselves at Auchenrivoek, on the banks of the Irving Burn, near Langholm, where they had a tower, a fragment of which still stands, forming part of the garden wall. They quickly spread from the Esk to Annandale and Nithsdale, where they could watch the fords from the Esk to the Nith. That part of the clan which settled in Hoddom is supposed to have had its first stronghold where the farm of Hallguards now stands. This was near the centre of the ancient village of Hoddom. The site of the Townhead is still known by some cottages of that name. It is believed that the village extended from the Townhead along the river side to below the old churchyard. Another cluster of small farms stood where a solitary cottage now stands, about three-quarters of a mile from Hoddom Bridge on the road to Ecclefechan.

It is evident that the Irvings were firmly established in Lower Annandale when Robert de Brus fled from Edward Longshanks, for he took shelter among them for some months. Bruce, as Lord of Annandale, subsequently built castles at Annan, Hoddom, Castlemilk, and Lochmaben. These strongholds show how much importance Bruce attached to Annandale as the direct route from England to Scotland.

It is not known when the chief in Hoddom was first honoured as Duke of Hoddom. The first mention of the title I have come across was in 1490 of the “good Duke Ritchie of old,”

which indicates that the title had been in familiar use for a considerable time, and it was certainly used down to the middle of the 17th century, or over 200 years. The clan appears to have had all the land in the ancient parishes of Hoddom, Luce, Ecclefechan, and Trailtrow, with a part of St. Mungo. In the various changes that took place in the following centuries the Dukes of Hoddom seem to have lost a large portion of their patrimony, but kept hold of Knockhill and Whitehill, which latter place they have held through all the stress and strife of five or six centuries. Tradition says that the name of Knockhill was given to the place by the first Irving who settled there in remembrance of the old home in Cunningham. Be this as it may, there have been Irvings in Hoddom for centuries, and they were known as Dukes of Hoddom from the early part of the 15th century to the middle of the 17th.

From the Solway to Milk Water they were often called upon to defend their lands and heritage, and took an active part in all the wars. There were Irvings at Knockhill, Irvings at Trailtrow, Irvings at Kirkconnel, Luce, Turnsshaw, Cleughheads, Warmanbie, Blacketlees, Hurkildail, Annan, and Stapleton, without taking into account the range of towers that extended on both sides of the Kirtle from the Lochmaben Staines at the mouth of Kirtle Water to Birrenswark.

The Irvings at Trailtrow kept up the bonfires on Trailtrow before the Tower of Repentance was built, and had a farm adjoining, called Ward Park, for doing so. In 1541 Habby of Trailtrow had two sons, John and Dick. That was before the Tower was built.

The Laird of Knockhill was recognised as the head of the clans in Hoddom, and was known as the Duc. This meant leader, or "chieftain," as we find in a marginal note of the revised version of the Bible as the explanation of the title "Ducs of Edom."

In a charter by Robert de Brus of fishings at Blaaswatwood (in Gretna) Robert de Hodelm was a witness, circa 1190, but it does not say whether he was a Knight or a Priest. On Bleau's map, 1660, "The Duke of Hoddom" is indicated as including a considerable stretch of land from the river up to Barr Hill and Knockhill. He is also called "Duke of Hoddom" on Moll's map, 1725. In "Acta Dominorum Concilii, 6th November, 1490,"

we have reference to "John Irvin callit the Duc," and to Thomas Rae.

"Afternoon Sederunt, the Bishops of Glasgow and Aberdeen, Chancellor Earl of Buchan, Lords Gray, Olephant, Drummond, Secretary Mr Richard Lawsoun."

"The Lordis of Consale decrettis and delinerie that Johne Lindesay of Wauchop and William Graham of Moskeswray (Shaw) sall content and pay to Robert Costrale, Walkare in Linlithgow, a tauny wob conteuand XX elnis of walkit claith, price XXLI., quhilk was delinerit to the said Robert be Elspeth, the spouse of unquhile John Butlare, for the quhilkis the saidis Johne Lindesay and William Graham becom souerte for Johne Irwin, callit the Duc, and Thomas Rae, quhilkis Johne and Thomas tuk thaim to our souerane Lordis remissionu therefor in the Justice Are of Drumfres, and the saidis Johne Lindesay and William Betoun souerte for satisfioun of party; as was preffit be the copy of the Adinruale subscripsit with the hand of Maister Richard Lawsoun, Justice clerk, schewin and producit before the Lordis. And ordinis our souerane Lordis letteris be direct to distreuse the said personis thair landis and gudis herfore, and that were summond to this accioun oft-tymes callit and nocht comperit."*

It will be observed that the John Irwin, callit the Duc, and Thomas Rae were jointly concerned. The great centre of the Raes was at Trailtrow, where many of their descendants still live. Indeed the old churchyard at Repentance has a great many tombstones bearing the name. Their shields bear three roe deer, whilst those of the Irvings bear three holly leaves. We do not know what was the result of the above "decretti." It indicates that the then Duc was a prominent man, and evidently had been established at Hoddom for a long time.

Bruce built castles at Hoddom, Castlemilk, and Lochmaben, and the Duc's Tower was halfway between Hoddom and Castlemilk.

John Irving of Staikheugh was wrongly imprisoned in Carlisle Castle for half a year, and Maxwell, the warden, complained of this to the King in May, 1592.

*Sir M. Lindesay owned Wauchopdale 1333. He was at one time Governor of Perth.

In 1545 we find "Duke Richard" of Hoddom mentioned as having 142 followers. (Callendar of State Papers, 1547-1565.)

In 1552 among the Scotchmen sworn to serve the Kynges Majesty were the following:—

"Rychie Irwin called 'Dukes Rychie' and those

"under him 127 (Hoddom)."

"Ceristie Irwin called Matthews Crestie 74

"(these would be of Pennersax)."

"Wat Yerwin 22. Turnsshaw."

When William, Lord Herries, died in 1547, Hoddom, of which Knockhill then formed part, was left to his three daughters, Lady Agnes, who married John, Master of Maxwell, Lady Katherine, who married Stewart, son and heir to Alexander Stewart of Garlies, and the youngest daughter, Lady Janet, who married James Cockburn of Skirling, Knight. Lady Janet had a tocher of 2300 merks.

In 1581 Barbara Stewart, daughter of Alexander Stewart and Dame Katherine Herries, one of the three co-heiresses of Hoddom, married John Kirkpatrick, heir apparent to Thomas Kirkpatrick of Allisland, so that the Sharpes of Hoddom were lineal descendants of Katherine Herries of Hoddom. Lady Agnes in February, 1549, got a crown charter of the third part of the £20 land of Hoddom, her sisters getting the other two-thirds. On the 20th May following (1549) Lady Agnes made over this charter to Richard Irving, which ran as follows:—

"To all and Sundry &c. Agnes Herries, eldest daughter and one of the three heirs of that noble and potent Lord William Herries and spouse to John Master of Maxwell (Afterwards Lord Warden) with the express consent and assent of my beloved husband, for the good and faithful services done to him and me by our well beloved Richard Irving (called of old Duke Richie) and to be done in time to come, and we being willing and most earnestly desiring thankfully to reward the said Richard &c. Not only to have given and dispoed and by this our present charter confirmed but also by these present gives grants and by this present charter confirms to the said Richard his heirs and assigns All and hail That third part of all and hail my twenty pound land of old extent of Hoddom extending to one ten merk land of old extent with its pertinents lying within the Parish of Hoddom and Stewartry of Annandale &c. to the said Richard

Irving (otherwise called Duke Richie) his heirs and assigns of me and my heirs and assignees in feu and heritage for ever. In its hail meaths and marches both old and divided as they lie in length and breadth in valleys plains muirs mosses ways paths waters stanks rivers meadows pastures and pasturages mills millheads with their sequels hawking hunting fishing turfs peats coals cunnings cunningards dewes dewcots smith-smidies broms whins woods frogs bushes timber-trees quarries freestone and whinstone with courts with their appertenants, bloodwitts and the Marchel Mulievum &c. &c. beneath the earth and above the earth far and near belonging or any ways known to appurtain and belong to the said third part of the foresaid twenty pound land &c. Therefore yearly the said Richard Irving his heirs and assigns for-said to me my heirs and assigns waived and relief of the foresaid lands with their pertinents with the marriage of the heir when it shall happen &c. I the above named Agnes Herries with consent and assent of my said husband binds and charges us our heirs and assignees to acquit and for ever to defend All and hail the forsaid third part of the Twenty pound land &c. to the said Richard Irving his heirs and assignees foresaid to be free safe and sure at all hands and against all deadly."

"In Witness thereof I have subscribed this my Charter and appended my seal together with the seal and manual subtz of the said John Master of Maxwell my said husband. In token of his consent and assent to the premises at Dumfries the twenty day of May and year of God One thousand five hundred and forty nine before these witnesses, John Haypaith, David Maxwell, John Maxwell, Cuthbert Irving of Rogill (Robgill), and Mr John."

"David Neaper notar public sic subtz Agnes Herries led on the pen by David Neaper notar sic subtz David Neaper notar sic subtz John Maxwell."

The twenty pound land was the whole of what belonged to the Lord William Herries in Hoddom, except the ten pound land of Ecclefechan. His daughter Agnes got one-third, and that is what is represented by the ten merkland of Knockhill, Whitehill, and Duke's Close, which became the property of Richard Irving. Tho old Valuation Roll (1667) gives the Ten Merk land of Hoddom as Knockhill, Whitehill so far as lies in Hoddom, and Duke's Close. About a quarter of a mile down the river from Hallguards there is the "Duke's Pool." There is also the

“Duke’s Mill” close to, and the “Duke’s Meadow” between Knockhill and Hallguards. Though there is no direct evidence as to the earliest residence of the Dukés of Hoddom in the early times except Knockhill, Bleau’s and Moll’s maps rather suggest the probability that the first Richard Irving lived at Hallguards.

It is not known what valuable services Duke Richard rendered to Lord and Lady Herries, but it is probably in connection with the driving of Lords Wharton and Lennox back over the border in 1548. No doubt the Duke of Hoddom would suffer severely along with his neighbours during Wharton’s ruthless invasion, more especially as Hoddom was on the direct route of Wharton’s march when he marched from Carlisle to Castlemilk and from Castlemilk to Annan in 1547.

The Duke of Hoddom was a supporter of Queen Mary, and fought at the battle of Langside in 1568. His neighbour, Lord Herries, was in command of the horse, consisting entirely of Borderers, mostly of his own adherents. Mary was defeated and fled, and I need not further refer to that disastrous part of her history. The adherents of the unfortunate Mary were afterwards treated very severely, and no doubt when James VI. and Regent Murray, on their march, in October, 1569, from Hawick to Dumfries, *via* Langholm and Hoddom, when they lay in camp at Castlemilk for two days, visited the Queen’s sympathisers in the district with no gentle hands. On the 28th October, 1569, when James VI. with Murray encamped on the Water of Milk, “Sir James Douglas obliſſit him to enter Edward Irving of Bonshaw in Dumfries on Sunday as Pledge for the hail Irvings of Bonshaw, their bairns, tenants, and servants.” The same day “Adam Carlisle of Bryde Kirk and John Irving younger son of the Duke obliſſit them to enter the Duke John Irving aldar (*i.e.*, senior) in Dumfries on Sunday to ly as Pledge for sic nowmer of the Irvings of Hoddom as salbe declarit that day under the pane of 2000 merks.” “The whilk day Alexander Stewart of Garleiss obliſſit him that Habbie Irving of Turnsshaw, John Irving and Wat Irving his son shall appear in Dumfries. Also for John Irving of Trailtrow that he and his bairns salbe obedient to the lawis. Also Sir James Douglas of Drumlanrig obliſſit him for Habby Irving and Jauffray Irvings sonniss to Habby Irving of Trailtrow that they shall be obedient to the laws 2000 merks.”

I think the present representative of the Irvings of Trailtrow

now resides at Dalton. Seventy years ago there was a Habbey Irving in Dalton.

In 1570 Lord Scrope made a raid into Dumfriesshire by order of Queen Elizabeth, to punish the inhabitants for the support they had given to Queen Mary. On 21st April, 1570, Lord Scrope reported that he had entered Scotland and encamped at "Hecklefeaghan." He states that he had "burned the town of Hoddame, Maynes, Troltrow, Revel, Calpoole, Blackshaw, Sherrington, Bankend, Lowgher, Lowgherwood, and Hecklefeaghan." They burned Dumfries to the "Blackness of Ashes" and "took and cast down the Castles of Carlanock, Hoddom, Dumfries." In 1578 there was a complaint of Alexander Carlisle on the occasion of some controversy between him and Jonne Irving called "Windie Duke;" they had both been put in prison in Dumfries, Carlisle being kept there twenty-two months, Irving being let out on bail.

Caution of Jonne Johnstone of that ilk for the entry before the King of Wm. Johnstone of Kirkhill, Joeth Johnstone of Brunnell, and Ritchie Irving of Wormanbie when wanted under pane of £1000.

"Complaint of John Johnstone of that ilk, warden, that James Douglas of Drumlanrig, along with also the Carlisles and Irvings of Milflats and Turnshaw, Scottish outlaws, also the Grahams of Esk, Englishmen, together with the brother of Rose-treis Hucheon, the Grahams son, who married an Irving of Hoddom, with divers other broken men, went to the House of Boneshaw, and there by force and way of weir enterit therein and maisterfully set at liberty and take with them certain persons of the name of Bellis and Irvings to the number of 18, notorious robbers, which were warded by the said warden in the Tower of Boneshaw."

This rather looks as if the Laird of Boneshaw had not been at home, perhaps on purpose. Robert Grame, son of Hutcheon Grame of Netherby, married an Irving of Bonshaw and was slain, leaving a son called George, probably George of Renpatrick. Richard Grame, another son of Hutcheon, married an Irving of Hoddom. A sister of the above Richard married William Armstrong, alias Kynmont Willie, whom Buccleugh rescued from Carlisle Castle, and a son named Hutchin married a daughter of John Armstrong of the Hollas. These relationships account for

the active assistance rendered to Buccleugh by the Johnstones and Irvings, and the friendly neutrality of the Grahams, who were not to be seen in the Debateable Land that memorable night, 13th April, 1595. The Johnstones lay at Stanwix and formed a rearguard for Buccleugh, and the Irvings were stationed further back to give all needful assistance if Scrope and his men ventured across the Eden.

In the year 1581 we find offers by Edward Irving of Bonshaw, George Grahame of Renpatrick, and John Irving of Knockhill, made to the Laird of Johnstone "and to the wyif and bayrnies" of the late William Johnstone in Hayhill, their kin, &c., for the offerers, their kin, &c., "for being on the field at the unhappe slaughtter of the said unqihile Williame," which they "sayrlie repent."

First. They offer full repentance in their hearts, "beseiking God of his infintle gudenes that we be newar on the feyld quhare ewar siclyike offensis be committit, and ernistle cravis forgevness for Godis sake."

Secondly. They offer "to try our innocens and to acquite ws and all ouris that nane of ws schot that unhappie schot quhareby the said William was slayne; not bare the said William no rankour in our harttis, and that be sic sufficient men as the Layrd of Johnstonn will appoint that we ar able to get or will do for us."

Thirdly. They offer George Irving, son to Edward, and "Christe the Grahame," son to George Graham, "to be enterit in the hous of the Lochwode to the Layrd of Johnstonn and thaire to byide sic tryale as the layrd will appoint that nane schot the sayde schot," and if either of these be found guilty of shooting the said William the offerers consent to their punishment without any prejudice to this offer.

Fourthly. They offer to attend at any place appointed by the Laird and "his wyise freyns" and there in their linen clothes to kneel and ask forgiveness, and in token of homage and repentance take their naked swords by the points in their hands and offer them to the Laird, bairns and friends of the said William "in maner of sufferage" as may please them.

Fifthly. They offer "to be bound as husband and father to the saidis wyif and bairnes" in all their affairs, and to take part with them against all who would do them wrong, except the

King, their landlords, "and sic otheris as we haif committit the lyike offence against."

Sixthly. They offer the sum of 500 merks to the family of deceased; and

Seventhly. Will increase their offers if the above are not accepted, the Laird and his friends to be judges. And finally they humbly crave forgiveness for the love of God. Dated February, 1581-82, the parties signing by Thomas Scot, notary, in presence of John Johnstone of that ilk, and Andrew Johnston of the Kirktown.

The John Irving of Knockhill mentioned in the above appears to have had two sons, Richard and John. Richard succeeded to Knockhill, and John to Whitehill and Duke's Close. This John, commonly called "Jock o' Milk," the subject of the old Border ballad Duke of Milk, was celebrated as a rider and raider.

Richard Lowther, the English Warden, refers to him in the following letter to Lord Burghley, dated Carlisle, 10th March, 1593:—

"My son and servants, while on the watch for Scottish thieves, took four, one named John Irvine, of whom I had before been written to both by Lord Hamilton and Carmichael (Scottish Warden) and of whom the Lord Herries complained while at London. I have sent Irvine to Lord Hamilton and Carmichael, whom I wish to 'pleasure' rather than to Herries, and hope you will approve."

He formed the subject of a conversation between James VI. and George Heriot, in the *Fortunes of Nigel*:—

"D'ye mind, for thou wert in maist of our complots, how we were fain to send sax of the Blue-banders to harry the Lady of Logenhouse's dewcot and poultry-yard, and what an awfer plaint the poor dame made against Jock o' Milch and the theivis of Annandale, wha were as sackless of the deed as I am of the sin of murder?"

"It was the better for Jock," said Heriot, "for if I remember well it saved him from a strapping at Dumfries, which he had well deserved for other misdeeds."

"Ay, man, mind ye that?" said the King, "but he had other virtues, for he was a tight huntsman, moreover, that Jock of Milch, and could halloa to a hound till all the woods rang again.

But he came to an Annandale end at the last, for Lord Torthorwald ran his lance out through him."

I have previously stated that Richard Irving succeeded to Knockhill, and that John (Jock o' Milk) got Whitehill. Richard, who was in most of the troubles of the time, died about 1620, and was succeeded by his son Richard, known as the Young Duke. This Richard left three daughters, Margaret, Barbara, and Janet. Meanwhile Jock o' Milk's son, John Irving the Lang Laird, married a Johnstone, and their son, John Irving of Whitehill, married Margaret Irving of Knockhill. Barbara married William Johnstone of Myrhead (Lockerbie), and Janet married George Irving of Braes. John Irving of Whitehill, son of the above John Irving and Margaret Irving, married Mary Bell, and on behalf of his mother and two aunts signed a disposition of the lands of Knockhill to George Johnstone, son of Andrew Johnstone of Lockerbie, in 1665.

After the Union of the two Thrones of England and Scotland, the Borderers for a good many years were in a transition state. Many complications as to ownership of lands and for loans had arisen, which led to a great deal of litigation, into which there entered a good many border tactics. The records of the Law Courts contain many examples of acts of violence, in which the Dukes of Hoddom and their followers figured.

In 1657 Parliament passed "An Act for the better suppressing of Theft upon the Borders of England and Scotland, and for Discovery of Highwaymen and other Felons."

In the Book of Caerlaverock, Vol. II., page 498, the following appears about the Irvings' Respite by James VI. to Sir James Johnstone and 8 score others for the slaughter of John Lord Maxwell, warden, Dec. 1593, including John Irving of Lus, Habbie Irving of Turnschaw, Richie Irving in Staikleuch, and Ekkie Irving, his brother, William Irving called Kange, Edward Irving of Bonshaw, and his sons.

Turnschaw is on the opposite side of the River Annan, close to Woodcockair, and nearly opposite Meinfoot. In the old maps it is represented as a place of importance, but is now known as Upper Bridekirk and a farm-house called Turnschaw Head.

"John Irving of Turnschaw having been transferred from Edinburgh Castle to James Chene of Streloch and escaped from him, forfeited 3000 merks."

“Richard Irving of Robgill, William Irving of Skallis, and 50 others, destroyed goods belonging to Maxwell of Nether Redik.”

“Complaint of Herbert Maxwell of Cavens against Ritchie Irving in Hartildill and James Irving in Trailtrow outlawed.”

“Decree for Bessie Miller and others against Jock Armstrong and Jock Irving in Stanheuch on a charge of Spuilzie and slaughter.”

“Suspension of horning (outlawry) obtained against Lady Newbie and Richard Irving of Hoddom by the laird of Johnstone.”

“John Maxwell of Conhaith and Robert Herries of Hillilour for Elizabeth Stewart Ladie Newbie 1000 merks, and for Richard Irving Duke of Hoddom 500 merks, to answer before the Council on the 24th the complaint against them by Sir James Johnstone of Duns-kellie.”

“Complaint against them by Sir James Johnston of Duns-kellie for intromitting with the corns growing on the lands of Newbie.”

“Mr J. Johnston, advocate for Abraham Johnston, brother of Robert Johnston on Brighome, to pay to the treasury 10 merks for his escheat through being denounced rebel at the instance of Elizabeth Stewart, relict of John Johnston of Newbie, for his not desisting from intromitting with the mails of the living of Newbie.”

Richard Irving of Knockhill is a witness (in a trial).

“Minute Book of Progress Suspension of Lawbarrowis, Richard Irving against the Lord Herries.”

John Irving, called the Lang Laird of Hoddom, and his son, the Young Laird of Hoddom, were tried for Raiding, the elder was acquitted, the younger was banished the land.

On the 21st June, 1621, we have the complaint of Robert Maxwell of Dinwoodie how the laird of Wamfrau and others, and Richard Irving, called “the young Duke of Hoddom,” came and destroyed his peats and chased his cattle with the buttends of their lances, so that some were left dead on the ground and others broke their legs. Had to find security.

In 1622, caution by Richard Irving of Knockhill that Andrew Murray of Moryquat shall not molest John Gibson in Kirkwood, bound in 390 merks.

“In 1622 James Irving of Cleucheld (now Mountannan) acted himself as cautioner and souertie for Edward Irving, son to Jaffray of Robgill.”

“Court held in Dumfries, Feb. 12th, 1623, Wat Bell in Middleshaw becomes cautioner in 500 merks for Jok Bell.”

“Jaffray Irving becomes cautioner in 500 merks for David Irving in Middleshaw.” Middleshaw was a third of Castlemilk.

“Hob Irving in Todhoilles becomes cautioner in 500 merks for John Irving in Woodheld in Stapletown.”

“John Bell in Albie cautioner in 500 merks for Christie Irving called of Rogill.”

“Willie Bell, called Reidcloak, becomes cautioner in 1000 merks that Robeine Bell and Jok Bell in Carruthers will appear in next court.”

“Court held in Dumfries 1623.

“Pannell consists amongst others of Richart Irving called Gawines Richie.”

“Geo. Colthart charged with resetting and maintaining Richie Irving in Wodhouse and Jaffray Irving of Robgill, fugitives and outlaws. (Acquitted.)”

“On April 23rd, 1623, Court held in Dumfries. On hair John Irving, called Lang Laird of Hoddom; James Irving, his brother; and Jean Johnstone, his spouse, ar accusit for airt and pairt of the thifteous steilling of seven gaitt furth of the lands of Brockshaw at several times pertening to Elizabeth Hardie and for the cruel burning of ane barn of corne beir quheit and ry purtaining to William Bell in Holmhead. Acquitted.”

“At a court held at Jetborough, August 28th, 1622, John Irving, young Laird of Hoddom, was accused of steilling twa ky out of the lands of Gimmenbie and tuk them to a sheep house in Hoddom. (Acquitted).”

“At the same court held at Jetborough, August 28th, 1622, 23 persons declared fugitives and outlawed for no appearance, amongst others John Irving called Ritchies Jokkie in Bankhead.”

“At a court, held at Jetborough, 19th April, 1623, John Elliott, that came from Carleill, and Edward Irving, son to Lang Will of Hoddom, acted themselves to depart presently from Scotland and never to return without the licence of the Lords of Council under pane of death.”

George Johnstone, to whom Knockhill was disponed, married

Isabel Weir of Edinburgh in 1670, but died in 1672, leaving an only son Andrew. This boy's mother married again in 1675 John Stark of Killearmount in Ayrshire.

In 1702 John Irving, son of John Irving and Mary Bell, married Isabel Stark, daughter of John Stark and Isabel Weir Johnstone or Stark, so that Andrew Johnstone and John Irving's wife were half-brother and sister. This John Irving seems to have been a good business man, and was concerned with the management of James Douglas of Dornock's extensive estates as long as he lived. In 1743 he gave most detailed evidence as to the rentals and boundaries before the Commission for enclosing Hoddom Common. Dornock was the second son of the Earl of Queensbury, and was brother to Kelhead. He married a daughter of Sir James Johnstone of Westerhall, and his son Archibald Douglas, who married a daughter of Sir Patrick Maxwell of Springkell, sold the Dornock estate and bought that of Castlemilk.

John Irving and Isabel Stark left a son, John, who died unmarried in 1777, and left a will, dated 12th June, 1773, by which he "bequeathed in favours Agnes, Mary, and Philadelphia Irvings, my sisters germain, in liferent for their liferent use allenary, during their joint lives and the life of the longest liver, except the share of the said Mary Irving as aftermentioned, exclusive always of the jus marite of their respective husbands (Mary Irving married Thomas Bell), and to William Bell, writer in Edinburgh, my nephew and the heirs of his body failing to John Carruthers of Braes also my nephew and the heirs of his body whom failing to John Carruthers of Denbie also my nephew son to Mary Carruthers sister to the said John Carruthers of Braes and my niece and the heirs of his body, whom failing to my heirs and assignees whatsoever heritably and irredeemably All and whole my Lands of Whitehill and Dukes Close lying in the Parish of Hoddom, and shire of Dumfries As also all and whole my lands of Holmfoots of Whitehill lying in the Parish of Saint Mungo." . . . ? . . . He also granted power to Infeft by "Staff and Bastion as use is" . . . The successors were to "take and bear the sirname and designation of Irving of Whitehill and make Whitehill their place of residence and those succeeding to them in the said lands in virtue hereof shall do the like." He also bequeathed all debts due to him, and "particularly" a "debt due to me out

of the Estate of Dornock, another debt due out of the lands of Cocket Hill being part of the Estate of Rummerscales, another due to me out of the Estate of Knockhill, another due to me out of the Estate of Castlebank; as also a debt due to me by John Carruthers of Holmains, another due to me by Bonshaw, and another due to me by Janet Knox of Kirkconnell."

His heirs were also "to erect a handsome monument upon the graves of John Irving and Isobell Stark, my father and mother."

"After the death of Thomas Bell his son, William Bell, assumed the name of Irving, and ever since the family name has been Bell-Irving."

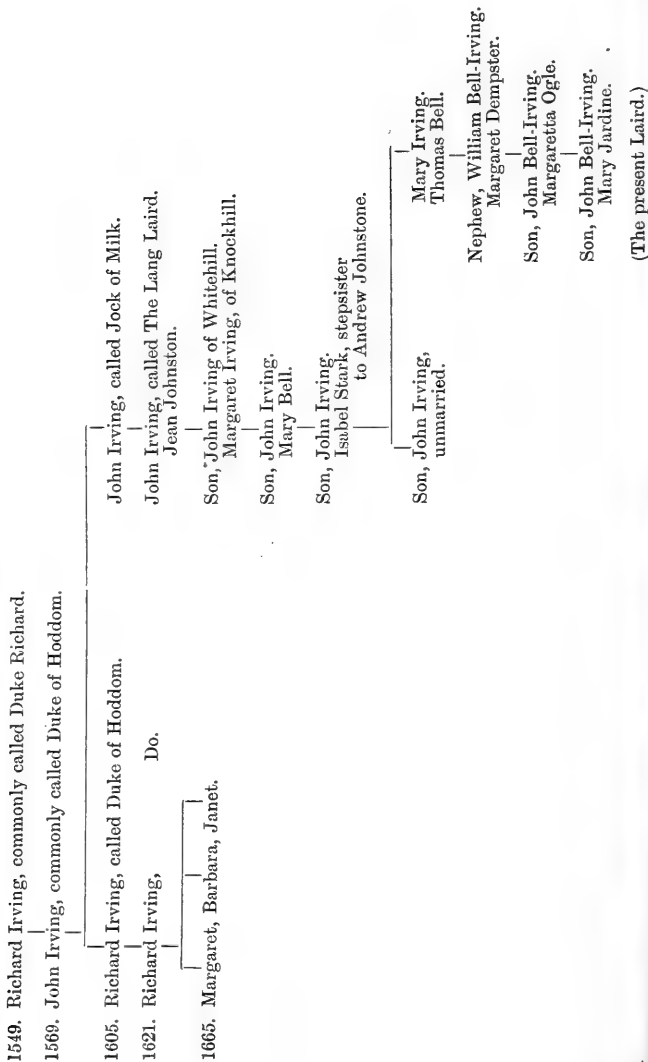
The Bells, known as the Bells of Milk, were for generations settled on the Water of Milk, and Will Bell, the son of Thomas Bell and Mary Irving, who assumed the name of Bell-Irving, was the grandson of George Bell of Stronds (now Milkbank), Skellyholme (now Glenholm), and Bankside. Agnes Irving married John Carruthers of Braes, her daughter married John Carruthers of Denbie, and their son, Colonel Carruthers, afterwards succeeded to their property.

The close relationship between the Johnstones and Irvings led to a long law suit between the lairds of Knockhill and Whitehill as to the division of the property, Whitehill having a claim of over £4000 on Knockhill. The matter was not finally arranged until 1794.

About the beginning of the 19th century Knockhill was occupied by a Captain William Ogle, son of Henry Ogle of Causey Park, a scion of the ancient noble family of the Ogles of Ogle in Northumberland. The then John Bell-Irving, father of the present laird, married Miss Margaretta Ogle, hence the introduction of the name Ogle into the Whitehill family.

The following Genealogical Tree will illustrate the previous notes:—

IRVINGS OF HODDOM, 1549 TO 1900.



JOHNSTONES OF KNOCKHILL—1665-1799.

In 1665 the estate of Knockhill was sold by John Irving of Whitehill to George Johnstone, a writer in Edinburgh, after having been in the possession of the Irvings for 116 years. George Johnstone was described as son to Andrew Johnstone of Lockerbie, and said to be a descendant of the Johnstone, probably a grandson, who fought so bravely at Dryfe Sands (6th Dec., 1593), whose wife was said to have killed Lord Maxwell. George Johnstone, before he acquired Knockhill, appears to have been the owner of Gimenie. In Dryfesdale old churchyard there lies, or did lie, a flat antique gravestone on which may or might be deciphered the name "Johnstone of Gimenie," dated about 1680, and adjoining the old aisle belonging to the Johnstones of Lockerbie. This William Johnstone acted as second to his chief, Sir James Johnstone of Lochwood, on the occasion of a hostile meeting between him and Lord Maxwell on the summit of Crochmede, a ridge between Annandale and Nithsdale, in 1608, when Sir James fell by the hand of Lord Maxwell, who is said to have shot Sir James in the back with a pistol while the preliminaries of the duel were being arranged. Lord Maxwell fled from justice, and was tracked by William Johnstone through Holland, Denmark, and Norway, and back to the North of Scotland, where he was taken and subsequently tried and executed in the Grass Market of Edinburgh for the crime.

The stone containing much of the above was there in 1775, but has long since disappeared. In some documents it is said the Lord Maxwell who was killed at the battle of Dryfe Sands fell in combat with this same William Johnstone, but this is not certain. This same family of Johnstone subsequently lost Gimenie and Millantae, which they also had, and acquired Knockhill.

George Johnstone was described in the disposition as a son of Andrew Johnstone of Lockerbie. He married Isabel Weir, daughter of Archibald Weir of Edinburgh and Elizabeth Hamilton, in 1670. Issue of said marriage, Andrew Johnstone.

George Johnstone died two years after his son was born, and his widow Isabel Weir married John Stark of Killearmont. Isabell Stark, a daughter of this second marriage, married John Irving of White Hill. Andrew Johnstone was therefore her half brother.

The disposition of the lands had already been settled, but a claim in connection with the marriage settlement of Isabell Stark, due by Knockhill to White Hill, began in 1672, and was only finally settled between Andrew Johnstone and William Bell-Irving in 1794, a nice gangin plea that kept its legs for 122 years.

“George Johnstone was succeeded by his son Andrew Johnstone. On 25th October, 1694, John Sharp of Hoddom as superior granted a precept of Clare Constat in favour of Andrew Johnstone as heir to his father (deceased) George Johnstone, writer, Edinburgh, of the third part of the £20 land old extent of Hoddom, extending to ten merkland of the same extent, with houses, buildings, gardens, tofts, crofts, onsets, insets, privileges, parts, pendicles, and pertinents of the same whatsoever, which lands above written at one time belonged heritably to the late Richard Irving, known as ‘Duke’s Richie,’ lying within the parish of Hoddom, &c., &c.”

On 23rd May, 1710, Andrew Johnstone granted a bond for £1800 Scots upon the lands of Knockhill to George Sharp of Hoddom, of which he was also superior, upon which infeftment followed. At Whitsunday, 1713, upon the death of Andrew Johnstone, Knockhill fell into the hands of John Sharp of Hoddom by virtue of the ward, and continued with him and his son George till Whitsunday, 1721, when James Johnstone, son of Andrew, obtained possession of the same. The above James Johnstone, though very young, joined the Rebellion of Mar in 1715, and fought at Sheriffmuir and Falkirk, and was afterwards banished to the West Indies, from which he returned in 1722.

In 1736 a bond was granted on Knockhill by James Johnstone in favour of John Irving of Whitehill and his spouse Isabel Stark, but Johnstone never fulfilled his part of the contract, and matters drifted on till 1745, when Andrew Johnstone, the last laird, son of James, “enlisted into Prince Charles’ army behind Pate Irving’s peat stack in Ecclefechan,” and James himself being suspected of giving aid to the rebels had to fly the country. Andrew was taken prisoner, tried, and condemned to be executed at Carlisle, but was afterwards pardoned and deported to the West Indies.

When under sentence of death he wrote the following letter to Whitehill:—

1746—"Dear Sir, I am informed that you have done all that lay in your power to assist me in my present situation, but according to the advice of my lawyer I pled guilty, hoping to be recommended to mercy, but I am afraid that little will be shewn to any but such as can make interest at Court either for pardon or transportation. May God Almighty prosper you in all your undertakings for shewing as much humanity as you have done to him who did not deserve it at your hand."

In a subsequent letter, after he had got a transportation pardon, he wrote again in the following terms:—

"I am daily expecting to leave this place for Liverpool in order to embark for transportation, and God knows I am ill provided for it." He then goes on to mention having applied to numerous friends in vain, and makes a request of Whitehill to make an advance to him, with which he very readily complied.

John Irving subsequently entered into possession of the lands of Knockhill, but commiserating the unfortunate position of James Johnstone and his son Andrew, he allowed the tenants to make payments to them from time to time, and soon himself assisted them with money, as appears from their letters, whilst Johnstone's daughters and a younger son James continued to live at the Mains of Hoddom.

John Irving was also in sympathy with the Jacobite rising of 1745, but no doubt his age, sixty-three, kept him at home. The following names of "rebels" are included in the list returned by the supervisors of Excise on May 7th, 1746:—"John Irving of Whitehill was active in pressing horses for the service of the rebels, and threatening the constables who would not assist."

James Leslie Johnstone of Knockhill and Andrew Johnstone, his son, carried arms with the rebels from the time they left Edinburgh till they dispersed. William Johnstone of Lockerbie, Edward Irving of Wyseby, William Irving of Gribton, and James Irving, his son, were also implicated. After the Act of Indemnity passed in 1749, James Johnstone again entered on the management of Knockhill.

In the Session Records appear the following entry:—"June 24th, 1753, John Brown the Frenchman (otherwise John Brutlie) and Margaret Johnstone, daughter to James Johnstone of Knockhill, compeared before the congregation and was rebukt for their irregular marriage, and absolved from the scandal yrefe."

John Irving of Whitehill, son of the one mentioned as assisting the rebels with horses, never took any action against him with regard to the deed until 1765, when Andrew Johnstone returned from the West Indies, where he had prospered. He then brought an action for payment before the Court of Session, but Johnstone having soon thereafter returned to the West Indies, nothing was done in the submission of the case.

Andrew Johnstone again returned from the West Indies to Knockhill, and in 1787 William Bell-Irving had the whole law business up again before the Court of Session. This was finally arranged in 1794.

The following is a copy of the "Inventory of Writs delivered to Mr Alexander Orr, Writer to the Signet, when Knockhill debt to Hoddom was paid."

1. "Charter of all and hail the third part of all and hail the twenty pound land of Hoddom of old extent, extending to a ten merk land of old extent lying within the parish of Hoddom and Stewartry of Annandale, granted by James, Earl of Southesk, to and in favour of George Johnston, writer in Edinburgh, dated 15th August, 1666."

2. "Instrument of Sasine proceeding upon a Charter of appysing by the said James, Earl of Southesk, of the said lands in favour of Sir Charles Erskine, Baronet, dated 29th August, 1666, and registrate in the general Register of Sasines at Edinburgh, 11th September, said year."

3. "Instrument of Sasine proceeding upon an heritable Bond of Corroboration granted by Andrew Johnstone of Knockhill to John Sharp of Hoddom, dated the 9th of May, 1696, and registrate in the general Register, 27th day of said month and year."

4. "Charter of Adjudication granted by John Sharp of Hoddom to and in favour of Isobell Stark, spouse to John Irving of Whitehill, of the said ten merkland of Knockhill, dated 6th July, 1714."

5. "Instrument of Sasine following thereon in favour of the said Isobell Stark, dated 28th October, 1714, and registrate at Dumfries 19th November said year."

"Edinburgh, 23rd March, 1767.—Received up by me, Clerk to Alexander Orr, Writer to the Signet, the writs in the above Inventory from George Muir, Writer to the Signet."

(Signed) WILLIAM DEWAR.

At the enquiry into the various common rights in the parish in 1743 there was a dispute between Sharpe and the adjoining owners as to a place called Greenwoodshaw, now part of Mein-foot Farm, which Sharpe of Hoddom stated he had acquired from Johnstone of Knockhill in 1694 in satisfaction or part satisfaction of the debt incurred in 1710 to George Sharpe, and in support of his contention produced the following documents:—

“Deed of Spuilzie before the Lords of Session at the instance of Wm. Armstrong in Bogside and John Irving of New Orchard against John Sharpe of Hoddom and others dated 16th February 1712.”

“Charter by the Earle of Southesq in proceeding upon an apprising at yd instance of Mr John Alexander against Rob Irving of Knockhill and an oyr apprising in favour of Sir Charles Areskin of Cambo against Mr James Alexander son and heir of the said Mr John Alexander wh. Charter is dated 18th August 1666.”

“Instrument of Resignation by Andrew Johnstone of Knockhill in favours of the said John Sharpe of Hoddom of Greenwoodshaw extending to four acres or yrby possest by George Corrie in Hoddom, dated 28th December, 1694, regt. Drumfries the 3rd of Jany. yrafter.”

“Obligation by John Irving of Whitehill in favours of the said John Sharpe whereby the obligant as adjudgee of the ten merkland of Knockhill is bound to ratify the said John Sharpe his right of those parts yrof called Greenwoodshaw, Huttonsbog, and Bushyards when required for that effect, dated 7th July, 1714.”

“As also there was produced by James Lesly Johnstone of Knockhill cited at the instance of the psr as a havor of writis for proveing the payment aforementioned Translation by the said John Sharpe of Hoddom in Implement of an Agreement yrin mend dated the.....day of.....1694.”

His son, Andrew Johnstone, the last laird, went out in 1745 and fought at Prestonpans and Culloden, was captured, tried, and condemned to death at Carlisle. After lying in Carlisle prison for some time he and others were transported to the West Indies. He returned to Knockhill and built the present house. It is supposed he pulled down the old tower which, as far as I have been able to make out, stood a few yards in front of the present house, where some large trees are growing. He lived to a great

age, and died about 1798 or 1799. The late Charles Stewart of Hillside, writing in 1862, "said he had a shadowy remembrance of the tall bent figure of the old cavalier, who was regarded with a sort of romantic respect by our country people, among whom passed many a story of these lairds of Knockhill. Said he had heard especially from old Colonel Carruthers of Denbie, who personally knew the last laird, their extraordinary feats of personal bravery in battle, and also of the remarkable coolness and even jocular hilarity of the last laird when under sentence of death. His good and ladylike widow, who survived him a few years and lived at Bankside, excited the talk of our more bigoted Presbyterians at the scandal of having the burial service of the Episcopal Church (to which she was strongly attached) read by a most worthy Scotch clergyman at her burial in Hoddom Churchyard. The only remnant of this old family that I know of is the proprietrix of Catlins in Dryfesdale, who is a descendant of the Knockhill of 1715. The family were distinguished for their fidelity and devotion to the cause they thought right, and for the courage, gallantry, and determination of characters of these Johnstones of Gimmenbie and Knockhill."

In 1794 Andrew Johnstone was entered in the list of 39 Volunteers from Hoddom. Charles Sharpe, D.L., signed the declaration first and Johnstone second. The list was also signed by Wm. Bell-Irving of Whitehill. Andrew Johnstone died in 1798 or 1799, and was interred in Hoddom Churchyard. I regret I have not been able to find his tombstone. There is a very old aisle called Knockhill aisle on the south side of the church, which appears to have been built against the wall of the old church pulled down in 1816, and shewn upon the photograph which accompanies this paper. The Johnstones may have been interred there, but there is no inscription of the name. The Scott family is buried there. The masonry of the aisle indicates a much older date than the beginning of the 19th century. It is probable that the Johnstones' stones have been covered up.

I have not been able to trace the history of John Brown (the Frenchman) and Margaret Johnstone. There may be some of their descendants living.

After the death of Andrew Johnstone, Knockhill was sold to Mr Lascelles, a member of a Yorkshire family, who appears to have got possession at Martinmas, 1801. He does not appear to

have been very well provided with money, for Sharpe of Hoddom had a good deal of difficulty, according to a letter from Andrew Macwhinnie, his law agent, in getting paid the "Compositi agreed upon for your charter of the Estate of Knockhill to Mr Lascelles, Being £300 and 2 years feu duty of that Estate to Martinmas last, £2 6s 6d, in all £302 6s 6d. This was paid on 6th July, 1804, Lascelles had granted a Bill upon a Brother in England for the Needful, but his legal agent, Mr Young, delayed advancing the money until he got advice that the Bill was paid." Very prudent.

Andrew Macwhinnie, Hoddom's law agent, in advising the above, said "the matter was now settled and I think much to your advantage, as I believe they were entitled to have deducted a fifth part of the Gross Rental for Teind, in place of £19 19s 6d, the valued Teind."

Lascelles was not on friendly terms at The Castle. Mr C. K. Sharpe, writing to his sister, hoped he would never be allowed to enter Hoddom Castle again, and described him as one of the leading wasps in the hornet's nest of Dumfriesshire. It looks as if there had been some love affair at the bottom of C. K. Sharpe's dislike.

After holding Knockhill for a few years, Lascelles sold it to Alexander John Scott, who held it until he died on 26th April, 1834, aged 68 years. He was married to a Miss Helen Curll, and left a son, Alexander, who died in New South Wales, 16th February, 1850, aged 35. Another son, Gideon Andrew Scott, was drowned on his passage home from New South Wales, 8th January, 1863, aged 41. I am informed that there is a daughter of Alexander John Scott still living. The Scotts came from the neighbourhood of Langholm. I am indebted to a correspondent for the following interesting communication:—

"About the latter end of the 18th century there were some families of the name of Scott in Eskdale, dry stone dykers. A son of one of these Scotts emigrated to the West Indies and was not heard of for many years. In the course of time a letter came from him to all his relations, saying that he was very much in want of money at that time, and that he would be much obliged if they would lend him as much as they could. Only one, Alexander Scott, stone dyker, responded to his appeal by sending him £30, all the money he had. Some years after the



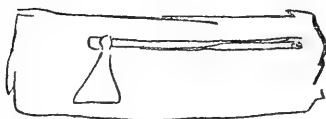
Built into inside wall Knockhill Summer House.

West Indian planter died and left all his fortune to the stone dyker, somewhere about £80,000. The man married and afterwards bought Knockhill, for which he paid about £30,000. He had a family, who after his death sold it to General Matthew Sharpe about 25 years after, for about half that price. The daughters married, but the sons emigrated to Australia, where they died."

I am informed that General Sharpe bought Knockhill in 1841, and that the price was £15,000.

During the time that Mr Scott owned Knockhill it was the scene of a tragedy. A young man named Bell from the neighbourhood, who had been to see his sweetheart, was heard by the butler, who shot him when escaping through a basement window. The butler was tried and acquitted. It is needless to say that Knockhill was haunted by a ghost for some time after. The ghost made so much noise that they could not get the servants to stay. At last the owner got the Reverend W. Wallace Duncan, then helper to Mr Yorstoun, the Parish Minister, to go and sleep in the house. Whether it was the good man's saintly presence or his bodily powers that were disagreeable to the ghost no one knew, but the ghost saw fit to change its quarters and was no more heard of at Knockhill. A Colonel Little, a native of the neighbourhood of Langholm, who had been in the East India Company's service, was an occupant for a few years. He removed to York and died there. He was succeeded by Sir Patrick Heron Maxwell, Baronet, of Springkell, who was killed by a fall from his horse on 27th August, 1844. A few years after the death of Sir Patrick, Mr William Sharpe occupied it until his death on December 18th, 1875, in his 83rd year. After Mr William Sharpe's death it was sold to Edward Brook, Esq.

If anyone could write a history of the late William Sharpe and the doings at Knockhill in his day, it would make a most interesting volume. He was the most genial and hospitable of lairds, and Knockhill was perhaps the most unique and popular establishment in the south of Scotland. There all sorts and conditions of men were welcome if they were of the right sort, and many were the convivial evenings spent within its walls. Among the objects of interest at Knockhill were the string of racehorses, the greyhounds (among them "Hughie Graham," winner of the Waterloo Cup); then there were pets of all sorts—dogs, cats,



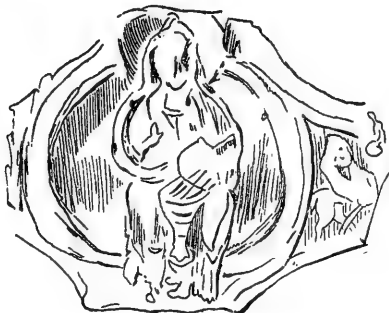
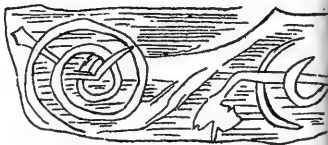
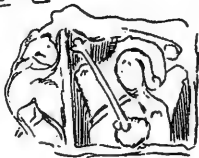
*Built into Summer House Walls
Knockhill.*

peacocks (some of them white), pigeons, and piebald sheep with bells in front of the house.

Major Campbell Bedford, a nephew of the late William Sharpe, next occupied it until a few years ago, and was succeeded by the present occupier, Mr David Bell-Irving, Master of the Dumfriesshire Otter Hounds, a son of the present venerable Laird of Whitehill, and a descendant of good Duke Richard.

I enclose some sketches of a number of interesting inscribed and sculptured stones in a little summer-house in Knockhill grounds. Amongst them are two Roman inscriptions (*Corpus Inscr. Lat.*, Vol. VII.), fragments of cross shafts of pre-conquest date much disfigured, and one or two mediæval stones. On one of the pre-conquest stones, a portion of a cross shaft, are the lower part of the two figures, the feet of each resting on two discs not unlike roller skates. Mr Romilly Allen writes that "They are a very interesting lot, and it is greatly to be regretted that they have been so knocked about. The style of the sculpture is Northumbrian, and apparently of the best period. The figures on wheels must, I think, be intended for the cherubims described in Ezekiel x. 8-22, who are the only creatures mentioned in the Bible as having anticipated the modern invention of roller skates."

There are also two stones, one inscribed "A Lor Burn" and the other the names of certain "Baillies" connected with Dumfries, but which were described by Mr James Barbour in the Society's transactions, Vol. XII., p. 99. It is rather a pity that these two stones are not in Dumfries. It is to be hoped that they will be well taken care of in the future.



letters all 1 1/2"

Built into Summer House Walls at Knockhill. N^r Ecclefechan

(See Vol. XII. of Society's Transactions, p. 117, with reference to Roman Inscriptio)

25th April, 1902.

The Rev. WILLIAM ANDSON in the chair.

Donations and Exchanges.—Boletin del Instituto Geologico de Mexico, Num. 15, 2nd part.

The Chairman referred to the recent death of Mr Arthur Bennett, F.L.S., Croydon, a distinguished botanist, who was an honorary member of the Society, and he moved that an expression of the Society's regret at his loss be recorded in the minutes, which was unanimously agreed to.

COMMUNICATION.

"*Lag's Elegy and other Chap Books.*" By Mr FRANK MILLER, Annan.

Mr Frank Miller, Annan, read a lengthy and valuable paper on Scottish Chap-Books, giving special prominence to the question of the authorship of "*Lag's Elegy*," and bringing under notice a number of other tiny volumes issued from the press of Dumfries and Galloway at a time when the population depended largely for its literature on the stores of the pedlar or "*chapman*." A most interesting series of the chap-books was shown, most of the copies being lent by Mr William Macmath, F.S.A., President of Edinburgh Bibliographical Society, who possesses an extensive and unique collection. Mr Macmath contributed the following note of stall songs and ballads from the Dumfries press seen by him:

Title-page of an 8-page pamphlet: "*Garland of New Songs: Star of the East, Banks of Doon, Beautiful Hill of Dromore, Come sit down my Cronies, Anna.* (Symbols of the sun, moon, and stars.) Printed for John Sinclair, Dumfries."

Title-page of another 8-page pamphlet: "*The Bride's Burial, or The Affectionate Lovers, a True Love Story.* Printed by C. M'Lachlan, for John Sinclair, bookseller, Dumfries."

Title-page of a third 8-page pamphlet: "*The Duke of Gordon's Daughters.* Printed for John Sinclair, Dumfries."
 "*Duke of Gordon's Daughters*" (page 2nd). (On 8th page—end)
 "*Finis.* Printed at the St. Michael Press, by C. M'Lachlan,

Dumfries." (Cuthbert M'Lachlan was printing in Dumfries at least as early as 1794).

Title-page of 12-mo. volume, 62 pages: "The Surprising Adventures of John Roach, Mariner, of Whitehaven, containing a genuine account of his cruel treatment during a long captivity amongst the savage Indians and imprisonment by the Spaniards in South America; with his miraculous preservation and deliverance by Divine Providence, and happy return to the place of his nativity, after being thirteen years amongst his inhuman enemies. Dumfries: Printed by Robert Jackson, 1788. Price sixpence." At end: "John Roach, Whitehaven." On a copy belonging to Mr S. R. Crockett is this note, at the end of the "Contents": "Mr M'lod, the Bookseller, minded seeing John Roach in 1788 going about selling this Pamphlet of his advs, and he was semenly much worn, aparently above fourty, near Whitehaven."

As an early example of the work of the Dumfries press Mr Macmath sent a copy of "Sober-mindedness press'd upon Young People in a Discourse on Titus II. vi.," by Matthew Henry (1715). From the terms of the advertisement at the end (he wrote) it seemed probable that this was one of the first things Robert Rae threw off after he commenced business in the town. The advertisement was in these terms: "These are to give notice that any who have occasion to publish books, pamphlets, or print burial-letters, etc., may have them printed at Drumfries: And that book-sellers, chapmen, and others may be furnished with several sorts of books, catechisms, and pamphlets, at reasonable rates, by Robert Rae, at his Printing-house in the Kirk-gate: and at his shop on the east side of the street, a little below the Fish Cross: where they may also have books sufficiently bound very reasonably."

After an introductory reference to the literary advantages of to-day, Mr Miller said: "In the seventeenth and eighteenth centuries there was no plentiful supply of literature at once good and cheap: consequently the masses were obliged to be content with the indifferent mental pabulum provided by the chapmen. In the days of the Stuarts these hawkers generally carried ballads or other broadsides which they recommended to possible purchasers in language like that used by Autolycus in describing his wares to the blushing Mopsa. The chapbook proper, which is a stitched tract of small size printed for sale by 'flying stationers,'

was almost unknown in England previous to the eighteenth century. Next to London, Newcastle-on-Tyne was the English town in which chap-books were most largely printed. Two of the Cumberland towns—Penrith and Whitehaven—had a good share of the trade in cheap books, as no one who has examined the collection of tracts in the Bibliotheca Jacksoniana in Tullie House, Carlisle, can doubt. Probably owing to the fact that the agricultural labourers of the North of England had more curiosity than their brethren in the South, the literary wares of the chapmen were most readily disposed of in the Northern counties.

“The chap literature of England consisted mainly of religious discourses, new versions of old romances, lives of criminals, tales of the supernatural, and humorous stories. The attractiveness of the booklets was much enhanced in the eyes of rustics by their illustrations. These were generally printed from wood blocks, which had been used again and again, sometimes with a ludicrous disregard of appropriateness. Most chap-book illustrations are very poor, but occasionally the collector sees a good cut. It must not be forgotten that Thomas Bewick, at the commencement of his career, did some work for a Newcastle publisher of popular books.

“Though the chap-book or ‘penny history’ scarcely existed in England at an earlier date than the beginning of the eighteenth century, it seems to have been well known north of the Tweed in the last decade of the seventeenth century. A glance at Halliwell’s ‘Glasgow Merriments,’ an account of a unique collection of ‘penny merriments and histories,’ printed by Robert Sanders at Glasgow, 1695-8, will shew how varied in character and excellent in quality was the cheap literature sold in the west of Scotland in the time of William III. (1).

“The chap-books of Scotland belong chiefly to two classes—the religious, including biographical sketches of eminent Covenanters and similar works, and the humorous. Tales of the supernatural and lives of noted criminals form a highly interesting if comparatively small part of Scottish chap literature.

“Prominent among the Scottish tracts of the religious class are the writings of Patrick Walker, commonly styled ‘The Cameronian Pedlar,’ though, as Mr Hay Fleming has shewn, it

1. Halliwell’s tract is dated 1864. Only 25 copies were printed.

is doubtful whether he ever carried a pack. (2) Walker was born in or about 1666, but the place of his nativity is unknown. Boldly declaring himself a follower of Cargill and Cameron, he was arrested when a mere boy and flung into the 'thieves' hole' of Linlithgow. Taken to Edinburgh he was examined by the Privy Council and sentenced to banishment for life. It afterwards leaked out that Patrick had been present at the death of a trooper who had been slain by some Covenanters in self-defence. He was therefore brought before the Council again, and this time the thumbscrews and the boot were applied to him. Finding that torture could not extract a word from the brave youth his judges sent him back to prison, where he lay for many months. Transferred from one place of confinement to another he at length managed to escape from the clutches of his foes. Walker's first book, 'The Life and Prophecies of Mr Alexander Peden,' published in 1724, at once secured the favour of the intelligent and religious cottars of Southern and Western Scotland. His later works—'Semple Welwood and Cameron,' 1727, and 'Cargill and Smith,' 1732—though well received, did not make so deep an impression on the popular mind. The stalwart Cameronian survived till 1745, witnessing daily against 'the foul mismanagements of backslidden, upsitten, lukewarm ministers, elders, and professors.' (3).

"More popular in Southern Scotland than even Walker's 'Peden' was a coarse and vigorous pasquil entitled 'Lag's Elegy.' As this work is of local interest, and as I have made a special study of it for a book on Dumfriesshire Poetry, ancient and modern, on which I am engaged, you will perhaps allow me to devote to it a large portion of my space. The plan of the poem is well indicated by its full title: 'An Elegy in Memory of that Valiant Champion, SIR ROBERT GRIERSON of Lag, or the Prince of Darkness, his Lamentation for, and Commendation of his trusty and well-beloved Friend, the Laird of Lag, who died Dec. 23rd, 1733. Wherein the Prince of Darkness sets forth the commendation of many of his best Friends, who were chief Promoters of his Interest, and Upholders of his Kingdom in the time of the Persecution. Very useful and necessary to be read by all

2. Six Saints of the Covenant (1902). Vol. I., p. 37.

3. Peden's Life: Author's Preface.

who desire to be well-informed concerning the chief Managers and Management of the late Persecuting Period.' (4).

"Among the numerous champions of evil who are passed in review is Claverhouse, who receives the devil's thanks for his services, but is somewhat cruelly reminded of his flight from the field of Drumclog. Due honour is accorded to another famous soldier, the blood-thirsty Dalyell, and also to several eminent lawyers and statesmen, including Mackenzie, Rothes, and Lauderdale. Nor is Satan slow to acknowledge his indebtedness to the last two Stuart Kings for their strenuous efforts to root out Presbyterianism and advance the cause of Rome. But his warmest praise is reserved for Sir Robert Grierson, the laird of Lag, of whom he can say :

' Through all the large track of his time,
He never did my ways decline.'

"Instances are given of the services which had been rendered by Sir Robert in killing defenceless peasants ; and, of course, the Wigtown affair is referred to. Having surveyed the private life, as well as the public career, of his favourite with profound satisfaction, the Prince of Evil remarks significantly :

' Now Lag lives hot and bien with me !'

"Sir Robert Grierson seems to have been a man of courage and capacity ; but it may well be doubted whether even Dalyell pursued the infamous work of hunting down and shooting recusants with more manifest zest. It is not surprising, therefore, that a poem attacking his memory with peculiar force and malignancy was heartily welcomed by the peasantry of southern Scotland. The popularity of the 'Elegy,' which was published in Glasgow in the form of a chap-book of 24 pages, did not soon decline. Forty years after Sir Robert's death the tenth edition was reached, and four years later the eleventh appeared. Even in the first quarter of the nineteenth century the poem was reprinted and found many appreciative readers in rural parts.

"The interest with which we peruse 'Lag's Elegy' is enhanced by our knowledge that the piece [was familiar to two Scottish writers of the first rank. Sir Walter Scott possessed a copy of the chap-book (5), which may have supplied him with

4. Sixth edition, Glasgow, 1757.

5. See "Letters from and to Chas. Kirkpatrick Sharpe Vol. I., 147.

one or two hints for 'Wandering Willie's Tale'—the gem of 'Redgauntlet,' and one of the finest efforts of his genius. Probably one of the most effective touches in his description of Sir Robert Redgauntlet was suggested by this line in the 'Elegy':

'He bore my image on his brow.'

And it is not unlikely that he had a vivid recollection of the rhymster's picture of Lag sitting 'in the great chair' in hell when he represented the cavalier as pre-eminent among lost souls. For a deeper and sterner spirit than that of Scott the 'Lament of the Prince of Darkness' had attractions. As a youth Carlyle pored over the yellow pages of some copy of the pasquil, and possibly in the grim humour characteristic of so many passages in his writings the influence of the bit of rough covenanting verse may be detected.

"The 'Elegy' has been attributed to different authors. Carlyle told Mr John Carlyle Aitken that it was written by John Orr, the old schoolmaster so graphically sketched in the 'Reminiscences' as a man 'religious and enthusiastic, though in practice, irregular with drink.' (6). But there is nothing to shew that Carlyle had documentary evidence in favour of his theory, which contradicts the tradition of his own parish and receives no support from anything known as to Orr's tastes and studies.

"Mr Macmath informs me that a copy of the 11th edition of 'Lag,' sold by Mr Richard Cameron, Edinburgh, a few years ago, bore below the date (1777) the following jotting in a handwriting evidently 'belonging to the eighteenth century: 'This Elegy wrote by Will. Wilson, schoolmaster at Douglass, about the year 1735.' (7).

"Wilson, who is remembered as the author of some pamphlets on the Non-Hearer question, was actively engaged in literary work about the date of Sir Robert Grierson's death. I have before me a beautiful sermon by Adam Kae, minister of Borgue, 'in the time of Scotland's purest Reformation, which was in the

6. Fergusson's 'Laird of Lag,' 158-9. Remces. by Thomas Carlyle, Vol. I., p. 38.

7. Mr Cameron's Catalogue, No. 154, 1896.

year 1648,' edited and printed by William Wilson from a MS. in 1735. (8).

In the editor's introduction Charles II. is referred to as 'that vile abominable profane monster'—a description of the hated King as unflattering as the one in 'Lag's Elegy.' I am not aware that any rhymes bearing the name of Wm. Wilson were published as early as 1735, but about the middle of the century he offered to the public two little collections of bad verse. He had some connection with Tinwald, and it has been conjectured that he wrote the inscription on the Covenanter's tombstone in the churchyard of that parish. (9).

"But the weight of evidence seems to favour the claim of a third schoolmaster, William Irving, of Hoddom, who died in 1782. That Irving was the author is stated as a well-known fact in the following sentence from an article on Stewart Lewis, a native of Ecclefechan, published in an early number of 'Chambers's Edinburgh Journal': 'He (Lewis) was put for a short time under the ferula of the parish schoolmaster, a character famed in Annandale by the name of Dominie Irving, and still more generally known as the writer of a wicked satire called Lagg's Elegy, of which a copy might once have been found in almost every cottar's window in the south of Scotland.' (10). As the contributor of the article quoted was well acquainted with Stewart Lewis personally, it is highly probable that the Ecclefechan bard was one of his authorities for the ascription of the pasquil to Dominie Irving. Testimony in favour of Irving's claim is borne also by Charles Kirkpatrick Sharpe, who, in a note to some memoranda on Lag and his connections, condescends to name the writer of a poem which he despised as popular among the vulgar only. 'The Elegy on Lag,' he says, 'was written as I have heard by one Irving, a schoolmaster, ancestor of the author of Fair Helen of Kirkconnel and other poems, who some years ago, in a fit of insanity, cut his own

8. A Sermon concerning the Believer's sitting under Christ's Shadow, Preached from Canticles ii., 3, by that faithfull minister of Jesus Christ, Mr Adam Kae, &c. Printed for and sold by William Wilson, schoolmaster at Broad-wood, in the parish of Carluke, 1735.

9. "Martyr Graves of the South of Scotland," chap. 24. (*Dumfries Standard* of 23rd May, 1894.)

10. No. 116, 19th April, 1834.

throat in Edinburgh.' (11). In an article on 'Epitaphs and Sepulchral Inscriptions,' contributed to the 'Scots Magazine,' W. S. Irving, the bard who committed suicide, refers to the old Hoddom teacher as the author of 'Lag.' Citing a dozen satirical lines he says they are by 'old Mr Irving, the author of the well-known philippic upon the persecutors entitled Lag's Elegy.' (12). W. S. Irving was a native of Hoddom parish, and had devoted much attention to its literary associations. His testimony, highly valuable in any case, is almost conclusive if he was descended from the satirist, as Kirkpatrick Sharpe, who knew him personally, affirms. The bit of verse quoted in the article was written by Wm. Irving at the age of 75. An imposing monument of red sandstone, still one of the wonders of Hoddom Churchyard, had been erected: 'By James Clow of Land in memory of Mary Hunter, his spouse. She was Daughter of Robert Hunter, late in Middleshaw, and Sister to John Hunter, in Braehead, of Hoddam. She was a virtuous wife, a loving mother, and one esteemed by all that knew her. And to be short to her praise she was the wife that Solomon speaks of in the xxxi. chap. of the Book of Prov. from the 6 verse to the end.' On reading this inscription the grim old dominie drew a piece of chalk from his pocket, and wrote on the pedestal of the monument as follows:—

'She was the wife !' oh Solomon, thou fool,
 To make a pattern o' this grubbing tool ;
 She clothe her house in silk and scarlet fine !
 Say rather i' the linsey woolsey twine,
 Her husband 'mongst the elders at the gate !
 Yes—known for nothing but an empty pate,
 For guzzling down whole chappins o' sma' beer,
 And selling meal and maut a groat too dear.
 Such were the honest silly *Clows*—say clowns,
 Which every roll of honest fame disowns,
 Who erst, like Moses, brake the ten commands,
 That is the sacred relicts of the Lands.' (13).

11. Memoir prefixed to "Letters from and to Charles Kirkpatrick Sharpe," Vol. I., p. 18.

12. "Scots Magazine" for May, 1816.

13. The estate of Land included part of Birrens, where the great Roman Camp, lately excavated by the Scottish Society of Antiquaries, is situated. Numerous valuable antiques had been dug up in one of Clow's fields, but he would not suffer them to be collected and sent to a museum for preservation.

“ ‘Beelzebub’s Advice to the Forestallers of Victual,’ another piece composed by Irving in his old age, so closely resembles ‘Lag’ as at once to connect itself with that pasquil in the mind of the reader. It has never been published, but I have a MS. copy taken from the original in the possession of Mr Fairnie, headmaster of Ecclefechan Public School. Satan is represented as addressing the unscrupulous ‘mealmongers,’ who were growing rich through oppression, in these words:—

‘ Monopoly and forestalling
Practise with all your might,
Do not regard the cries of those
That are in heart upright.

That law of Love and Charity
Which Christ Himself shall use
In judging of Mankind at last
With all your hearts refuse.’

“ I have been able to glean some information regarding William Irving from a fragment of his journal and common-place book which Mr Fairnie kindly lent me some time ago, and now permits me to exhibit in illustration of my paper. Where Irving lived before he was placed, at the age of 42, in charge of the school at Hoddom, is unknown to me; but as he occasionally visited Dumfries ‘to see his relations’ (14) it may be conjectured that he was a native of the county town or the neighbourhood. Like most poets Irving was very poor, and he seems to have had some difficulty in collecting the ‘school wages,’ which formed a considerable portion of his small income, and were as often received in the shape of butter or meal as in coin of the realm. At Hoddom he devoted much time to church work, being at once session-clerk and treasurer of the congregation. Amongst the miscellaneous contents of the little book owned by Mr Fairnie are sundry jottings relative to receipts and disbursements by the elder on account of the church. The minister of Hoddom during the greater part of Irving’s residence in the parish was the Rev. Alexander Orr—a fact in which the origin of Carlyle’s mistake as to the authorship of ‘Lag’s Elegy’ may possibly be found. If Carlyle’s informant first transferred the surname of

the minister to the elder it would be easy in the second place to confound the two dominies.

“ In his later years Irving produced no long poem, but occasionally, as I have shewn, he scribbled short pieces displaying some of the qualities so noticeable in ‘Lag’s Elegy.’ That the old man had the heart of a child is delightfully evident from one entry in his diary:—‘April 25, 1769. This day the weather turned warm, and the corn appeared above ground, the hawthorn took leaves, and the gowk cried.’

“ Irving died in May, 1782. He was buried in the churchyard of Hoddum, which is also the repository of the dust of Charles Kirkpatrick Sharpe, who often boasted of his connection with Lag, the Persecutor. Peeping from the long grass of the churchyard is a modest headstone bearing this inscription:—‘To the memory of Mr William Irving, who was schoolmaster of this parish for 36 years. He died May 11th, 1782, aged 78 years.’

“Turning our attention to works widely different in character from the Covenanting chap-books, let us now glance at the once-popular humorous writings of Dougal Graham, who is described by an admirer as—

‘The wittiest fellow in his time,
Either for prose or making rhyme.’

Dougal was born at Raploch, near Stirling, probably in 1724, attached himself to the Highland army in the second Jacobite rebellion, and held on till all the hopes of Prince Charlie were crushed on Drummoissie Moor. Settling in Glasgow, he became so great a favourite there that when a new bellman was required for the city he obtained the post, which he held till his death in 1779. The ablest of his prose tales is entitled ‘The Whole Proceedings of Jockey and Maggy.’ This work is written with no small vigour, and shows a thorough knowledge of certain phases of Scottish life and character. In respect of language too it has value, being rich in expressive words which have long been obsolete. His ‘History of John Cheap, the Chapman,’ was more popular than even ‘The Whole Proceedings of Jockey and Maggy.’ If we may trust the account it gives of the life of the Scottish chapman of a century and a half ago that life was a hard one. Here is a brief extract describing one of John Cheap’s experiences in a farmhouse: ‘On the morning I went into the

house (after having slept in the barn); the goodman ordered me the pottage pot to lick, 'for,' says he, 'it is an old property of chapmen.' Well, I had no sooner begun to it than out came a great mastiff dog and grips me by the breast, then turns me over upon my back, and takes the pot himself. 'Ay, ay,' said the goodman, 'I think your brother pot licker and you cannot agree about your breakfast.'

"Dougal Graham's works, which number more than a dozen, all throw much light on the national manners. But it should be kept steadily in view that he was a humourist delighting in exaggeration, and that he had no opportunities of studying the home life of any of those grave and rigorously virtuous men in humble life who abounded in every Scottish parish, his tales having no attractions for them. Valuable in many ways though Dougal's productions unquestionably are, it is not to be regretted that only antiquarians devote attention to them now. Coarser than even the novels of his great contemporary, Henry Fielding, they are quite unfit for popular reading. Like Chaucer's Miller, the Skellat Bellman of Glasgow—

'Nolde his wordes for no man forbere
But tolde his cherlisch tale in his manere.' (15)

"As examples of Scottish chap-books treating of the supernatural, I would mention specially 'The Devil of Glenluce' and 'The Laird o' Coul's Ghost,' and as a specimen of the records of crime 'Sawney Bean and his Family'—all three being tales connected with Galloway. 'The Devil of Glenluce,' a work in which the ludicrous and the horrible are curiously blended, appeared originally in George Sinclair's 'Hydrostaticks,' 1672, and was repeated in his 'Satan's Invisible World,' 1685. Mr Macmath says the relation had a yet wider circulation in the separate form of a chap-book. The Glenluce fiend confined his attentions to a respectable weaver named Gilbert Campbell and his family, and his appearance was connected with a curse which had been uttered by Alexander Agnew, a sturdy beggar, afterwards hanged at Dumfries for blasphemy. Sinclair, who was Professor of Philosophy and afterwards of Mathematics in Glasgow University, died in 1696. I have seen a chap edition of

another of his tales, 'The Marvellous History of Major Weir and his Sister.'

"'The Laird o' Coul's Ghost' purports to be an account by the Rev. William Ogilvie (16), Minister of Innerwick, East Lothian, from 1715 to 1729, of four conferences with the ghost of Thomas Maxwell of Coul, or Cuil, an estate in the parish of Buittle, and near Castle-Douglas. 'Coul,' after gratifying the minister's curiosity as to the state of the dead, &c., asks him to call on Mrs Maxwell and beg her to do justice to some persons who had been cheated by her husband.

"Reflecting how difficult it would be to convince the lady that he had really heard a voice from beyond the grave, the clergyman declines to undertake Maxwell's commission. The tale ends abruptly with this sentence:—'But dropping these matters till our next Interview; give me leave to enter upon some more diverting subject; and I do not know, Coul, but thro' the Information given to me, you may do as much service to mankind, as the Redress of all the Wrongs you have mentioned would amount to,' &c.

"I am informed by Mr Macmath that Thomas Maxwell was a 'man of business' with a bad reputation, and that his wife was Isobel Neilson, daughter of a Dumfries merchant.

"The chap-book is said to have been first printed in 1750. A few years ago an edition from the original MS., in the possession of the Rev. Dr Gordon, Glasgow, was published by Mr Elliot Stock, London.

"Ogilvie's account of the appearances of Thomas Maxwell after death is in parts as circumstantial as Defoe's 'True Relation of the Apparition of one Mrs Veal,' which I suspect suggested it. The following paragraph is full of touches fitted to compel the unsophisticated reader's belief in the whole matter as related:—'Upon the 5th of March, 1722, being at Blarehead baptizing the Shepherd's Child, I came off at Sunsetting, or a very little after. Near Will White's March the Laird of Coul came up

16. William Ogilvie, A.M., studied and was graduated at the University of Edinburgh, 30th December, 1706, ordained at London in 1712 as chaplain to the 7th Dragoons, presented by the Laird of Dirleton on October, 1714, and admitted 26th January following; died January, 1729, aged 40, in 17th ministry.—"Fasti Ecclesiæ Scoticanæ," part 1, p. 375.

with me on Horseback as formerly, and, after his first Salutation, bid me not be afraid, for he would do me no Harm. I told him I was not in the least afraid, in the name of God, and of Christ my Saviour, that he would do the least Harm to me: for I knew that He in whom I trusted was stronger than all them put together, and if any of them should attempt even to do the Horse I rode upon Harm, as you have done to Dr Menzies' man, if it be true that is said, and generally believed about Dumfries, I have free access to complain to my Lord and Master, to the Lash of whose Resentment you are as much liable now as before.'

“ ‘Sawney Bean and his Family’ is the most blood-curdling tale in chap-book literature. Bean, who lived in the time of James I. of Scotland, was guilty of cannibalism, a crime to be punished in no common way, as he at length discovered to his cost. Lovers of the horrible who have not access to his life in the original chap-book form should read it in Captain Charles Johnson's ‘History of the Lives and Actions of the most famous Highwaymen, Murderers, Street Robbers, &c., with the Voyages and Plunders of the most noted Pirates’ (17), or in Nicholson's ‘Historical and Traditional Tales.’ (18.)

“ Everyone remembers how superb a use of the ghastly legend has been made by Mr Crockett in ‘The Grey Man.’ From a letter which Mr Macmath has enclosed in his copy of ‘Nicholson’ I learn that the distinguished novelist possesses a copy of the chap dated 1737.”

In closing his lecture (after a short reference to the chap-books of Ireland) Mr Miller remarked that this class of literature deserved more attention than it had yet received. If anyone would do for the British chap-books what Professor Child, with valuable assistance from Mr Macmath, did for the British popular ballads, he would earn the gratitude of all who are interested in literary antiquities.

Among examples of similar works shewn from Mr Macmath's collection was a four-page tract, entitled ‘Dornock's Distress, a Tragical Dialogue,’ and bearing the signature ‘Ar. Douglas,’ with an intimation that it was to be continued. In it

17. The first edition of Johnson's book (London, 1734) contains a picture of Sawney at the entrance of his cave.

18. Kirkcudbright, 1843.

'Douglas, Dornock's rightful heir,' bewails his fate in being obliged to part with his estate, and pours maledictions on territorial magnates of the district and various lawyers for a share which he attributes to them in the business. The copy shown contains several letters on the subject addressed to Sir Walter Scott by Charles Kirkpatrick Sharpe, and three short marginal notes by Sir Walter. Another was an account printed at Kirkcudbright in 1805, of 'The Remarkable Trial of Jean Maxwell, the Galloway Sorceress, which took place at Kirkcudbright on the 28th day of June last, 1805, for pretending to exercise witchcraft, enchantment, conjurations, &c. By Alexander Gordon.' The poor woman was convicted and sentenced to be imprisoned for a year, and to stand once a quarter for an hour in the pillory or jugs.

9th May, 1902.

Mr JAMES BARBOUR, F.S.A. Scot., Architect, in the chair.

Exhibit.—The Rev. William Andson, on behalf of Mr M'Murdo, porter, exhibited a specimen of Seahorse or Hippocampus which had been brought from Bermuda by a sailor. Mr Andson stated that Mr M'Murdo had kindly presented the specimen to the Society's Museum, for which, on the motion of the Chairman, he was cordially thanked.

COMMUNICATION.

"*The Geology of the Dumfries Basin.*" By Mr JAMES WATT, Oaklands, Noblehill.

In the observations on the geology of the neighbourhood which I have now the honour to submit to the members of this society, it may be convenient in order to a clear apprehension of our subject if, in imagination, we take our stand on the top of the Corbelly Hill, from which, as we all know, a magnificent view can be obtained; the panoramic effect of which, however, is now sadly marred by the Convent buildings. The neighbourhood of which I propose to speak is the stretch of low-lying land

surrounded by the range of hills not very far off. This area is encircled by the Kirkmahoe and Tinwald hills on the north and east; on the west by the Mabie, Terregles, and Dunscore hills; on the south by the Solway Firth, and is known as the "Dumfries basin." (In this paper I only take in a part of the basin.) I may remind you that the term "basin" in geology is applied to a depression in the strata, in which beds of later age have been deposited. In this case the depression is in Silurian strata, and the over-lying deposits of later age are Permian sandstone and breccia. In the Thornhill basin the Permian deposits do not rest directly on Silurian strata as they do here. They rest there on carboniferous strata, with associated volcanic rocks—lava and tuff—so that the relations of the rocks there may be said to be of a complex character, while here they are quite simple. Of the rock deposits we shall speak later on, and give our attention in the first place to the superficial formation.

The hill upon which we are supposed to have taken our stand, and many other similar rounded elevations within the circle of the hills on both sides of the Nith, are masses of boulder clay or till. And not only are such elevations—drums or kames they are called—but the greater part of the whole superficial deposits of the district are also boulder clay. This formation attains its greatest thickness in low-lying ground, thinning off as we ascend valleys. It forms part of the "moraine profonde" or ground moraine which was formed and accumulated under the great ice sheet which covered the land during the glacial period, as Greenland is now covered. It covers a large portion of Scotland and Ireland, and is found in England and Wales to the north of the Thames and Bristol Channel. The appearance and character of boulder clay varies in different districts, and is determined by the character of the strata of the country over which the ice sheet has moved. In this district it is brick red, the colour of the prevailing sandstone, and from weathering within a few feet of the surface it is loose and easily worked, but in tunneling at considerable depths it is very much the reverse. In the excavation, some sixteen feet deep, for the cellarge of the recently-erected Convent buildings a typical section of boulder clay was exposed. It showed a mass of tough unstratified clay, including smooth and glaciated boulders (none of them very large), grits, greywackes, sandstone, and breccias, nests of gravel, and a large quantity of very fine sand,

so fine that it goes by the name of "Flower of rocks;" good for mortar, and in this case highly appreciated by the builder. With regard to the striking gap in the hills through which the Dalbeattie road and line of railway is carried, Mr Watt said that he had been informed by a well-known Scottish geologist who knows this district well, but who does not allow his name to be given, that there is strong presumptive evidence for believing that this gap or gorge had been sculptured out by a pre-glacial stream, which had been dammed up and diverted by a great mass of boulder clay behind the hills, particularly at the part which is now the top of the gap. More might be said of examples of glaciation not far off, but it would be out of proportion to dwell longer on the subject, and we pass on to

RAISED BEACHES.

On the Stewartry side, following the road to Newabbey for a couple of miles, two strips of low-lying ground are noticeable for their strikingly level character. These are raised beaches, indicating former sea levels; their present position being due to a gradual elevation of the land. The whole of that strip of land extending from Troqueer Holm to Kirkconnell Moss is of this character. The oldest of these beaches, extending from Park to Cargenholm, has an average height of 50 feet above sea level. The lower beach—the Flats of Cargen—at a height of about 25 feet, indicates the more recent beach, and extends to the mouth of the Nith, but sloping gradually up to the 50 feet level. It may seem hardly necessary to mention that the 25 feet beach is a striking feature of many parts of the Scottish coast. The late Mr P. Dudgeon of Cargen made an important discovery indicating "previous oscillations of sea level, as well as probably affording traces of neolithic man. During the sinking of a well through the raised beach at Islesteps the following section was passed through:—Sand, silt, &c., 15 feet; peat, 18 inches; stiff clay, 14 feet; while underneath the clay gravel was pierced. In the peaty layer the remains of a fir tree were found with its roots penetrating the underlying clay, and close by were discovered many bits of charred wood, bundles of moss, and traces of phosphate of iron. . . . In this section the clay (in which marine shells were found) evidently proves the presence of the sea; while the layer of peat, with remains of trees and charred

wood, points to a relative difference of sea and land, the subsequent growth of terrestrial vegetation, and (unless the presence of charred wood can be accounted for by lightning or other natural causes) the presence of man. The stratified deposits above the peat indicate the submergence of the old land surface and the return of marine conditions." Mr Dudgeon communicated this discovery to the survey officers, who explained it as above.

CLAYS AND PEAT.

The chief deposits of blue clay, used for brick making on both sides of the Nith, are Hannahfield, now idle and supposed to be exhausted; and Ryedale, Troqueer, also, it appears, approaching exhaustion, as I am informed that the bed of workable clay, which at one time measured 18 feet, has now thinned away to half that thickness. These clays are of glacial origin. On the Dumfries side a sandy clay overlaid by peat has been largely found. The foundations of the new Library buildings are laid on this sandy clay overlaid by 10 feet of peat. Pieces of oak, birch, hazel, and hazel nuts were found buried in the peat; while close by, on the site of the Station Hotel; peat was absent, the foundations resting on sandy clay. The probability is that peat at one time covered all the low ground extending to Victoria Terrace, the peat having probably been removed and utilised by the residents of our ancient town in early days. From what is observable from the roads leading to Lochar Moss, it is evident that the Moss was in not very remote times of very wide extent, with here and there great drums of boulder clay and ridges of gravelly material standing up above the level of the moss. Kirkconnel Moss, extending from Dalscairth to Kirkconnel, at one time famous for the excellent quality of its peat, is now, happily, nearly all reclaimed and yielding food for man and beast.

UNDERLYING ROCKS.

The whole of the immediately underlying rocks of the Dumfries basin, as I have already said, are Permian sandstones and breccia. These rocks, again, rest uncomfortably on Silurian strata. On the eastern side of the basin the deposits are made up of alternating bands of sandstone and breccia. This belief, previously held, has been confirmed by the deep well borings of

recent years; the official journal of the bore at Mr Carruthers' aerated water manufactory showing the following results:—

FORMATION OF STRATA PASSED THROUGH.

	Feet.	Inches.
Soil	4	7
Sandy clay and stones	5	2
*Gravel	21	3
*Gravel and sand... ..	4	1
Red sandstone (chiefly hard)	89	11
Breccia	3	6
Sandstone (hard)	5	0
Breccia	13	9
Red sandstone	11	1
Breccia (hard)	2	0
Red sandstone	2	10
Breccia	2	11
Red sandstone (hard)	5	4
Breccia (broken)... ..	1	7
Red sandstone (extra hard)	63	7
Breccia	12	7
Red sandstone (hard)	2	5
Breccia (broken)... ..	13	5
Red sandstone	46	8
Breccia	2	8
Red sandstone (extra hard)	10	0
Breccia (very hard)	4	6
Red sandstone	74	4
Total	403	2

A similar bore to the depth of 600 feet at the Gasworks gave practically the same results, the underlying Silurian rocks at that depth not being reached.

On the western side of the basin the deposits of sandstone and breccia do not alternate, but so far as I have been able to discover consist wholly of breccia, outstanding bosses of which may be seen in several places. It is well exposed in the course of the river at Cluden Mills. A conspicuous ridge extends from

* It may be noted that the "gravel" and "gravel and sand" are really forms of boulder clay or till.

Terraughtie behind the shooting butts nearly to Cargen. The railway cutting passing through this ridge at Goldielea shows a good section. It passes under Lochar Moss, and is to be seen resting on Silurian strata on the other side. And the two rocks—Permian and Silurian—may be seen in the same relation near the bottom of the deep gorge in the Cargen below the Glen Mills.

The term conglomerate is often mistakenly applied to breccia. Conglomerate, or pudding stone, is a rock composed of a mass of rounded water-worn stones, all cemented together, usually by oxide of iron or carbonate of lime. Breccia is a similar rock, but instead of rounded stones it is made up of angular and subangular fragments. In this area the fragments of which it is made up are of various kinds of rocks, and of every size, up to half a ton. And further, it may be noted that the stones often have a glaciated appearance, closely resembling those found in true boulder clay. The view now held by many eminent geologists is that at many stages throughout the unknown and unknowable millions of years during which the crust of the earth has been slowly attaining its present development there have been many glacial epochs. Sir A. C. Ramsay and Professor James Geikie—high authorities in glacial geology—were of opinion that those breccias which here, and in other places, reach to so great a thickness, “indicate a glacial episode during part of the Permian period.” And according to the same authorities the petrological character of the Permian rocks in the British area, and in other parts of the world where the system is developed, point to “the isolation of various large tracts (of an earlier sea), which thus became inland seas or salt lakes, like the Caspian;” and that “one or more of those inland seas covered large areas which now form part of central and northern England, and extended into southern Scotland and the north of Ireland.”

The life of the period, on sea and land, in remarkable contrast with the antecedent carboniferous era, was much impoverished, and generally stunted and dwarfed in character. But it is interesting to remember that the footprints of reptiles moving in a southerly direction have been found on the Corncockle sandstone. And it is to this discovery we owe the witty, but now rather hackneyed, remark of Dean Buckland, “that even at that early date the migration from Scotland to England had commenced.”

Mr Service moved a vote of thanks to Mr Watt for his paper. He had listened to papers on the same subject by the late Dr Gilchrist and Sir William Jardine, and he thought Mr Watt's distinctly advanced their knowledge of local geology.

Rev. Mr Andson seconded.

FIELD MEETINGS.

14th June, 1902.—In the Irving Country.

THE TOWERS OF KIRTLE AND BRUCE'S CAVE.

The first field meeting for the season of the Society took place on Saturday, 14th June. A party numbering a dozen proceeded to Annan, and thence drove or cycled across country by way of Stapleton and Broats to the Kirtle, which they crossed at Beltenmont; then along the highway on the east side of the river as far as Kirtlebridge, where they re-crossed and paid a visit to Bonshaw Tower, the residence of Colonel Beaufin Irving. Good weather favoured the drive, and the country presented a very fine appearance, woods and fields clad in the fresh green of a late summer and masses of hawthorn here and there adorning hedgerow and copse.

The first halt was made at Kirkpatrick-Fleming Parish Church, where a brief exploration was made of the burial-ground. Among the most interesting features which it presents is a stone set into the front of the Mossknow vault, bearing a Latin inscription to the memory of William Graham, who is designated as "Rector of this church," and who died just before the Revolution. This gentleman was one of the conforming Presbyterian clergy, who, as his title indicates, accepted institution at the hands of the bishop when the prelatie form of church government was established. He was in his own right proprietor of lands in the district, including Redhall, "Skarles," Pennersaugh, and "Blowbeoul;" and by his marriage to the daughter of David Irving of Mossknow he became first of the Grahams of that territorial designation. Another family revenge an ancient injury by an accusation written in stone. It is upon a small tombstone: "Here lyes the body of John Scot, who was murdered by the hand of Fergus Graham of Mossknow upon the 21st day of November, 1730, of age 51."

A second vault placed against the church is that of the Irvings of Woodhouse; and another branch of the Irving family—that of Cove—which once dominated the valley of the Kirtle, is commemorated by a table stone and mural tablets. The Irvings have been planted in this district since early in the eleventh century. Mr Bruce Armstrong, in his "History of Liddesdale and the Debateable Land," says: "In Lower Eskdale, on the borders of the Debateable Land, a place called Stakeheugh on the Irving burn was occupied by a branch of the Irvings. The head of this clan resided at Bonshaw, on the Kirtle Water in Annandale, where the clan was powerful, and at one time numbered upwards of 500 men." The arms of the Irvings, bestowed upon them by Robert the Bruce, are three leaves of "the pricking bay," or holly, and the crest is a hand holding a branch with seven holly leaves. That branch is believed to be a representation of Kirtle Water, and the disposition of the leaves indicates the position of seven towers once belonging to the clan—Kirkconnel (now Springkell), Woodhouse, Cove, and Kirkpatrick on the left bank; on the right, Bonshaw and Robgill; and Stapleton detached, at a distance from the stream. The Woodhouse Irvings were a junior branch of the Bonshaw family, and from them originated the Aberdeenshire family of Irvine (as they now spell it) of Drum. It is told that Robert the Bruce, during his early struggles for the crown, was sheltered at Bonshaw, and took into his service as his secretary a younger son of the house, Sir William of Woodhouse, on whom he afterwards conferred the Forest of Drum. The Woodhouse branch was raised to the baronetage in 1809, the first baronet being Lieutenant-General Sir Paulus Aemilius Irving, who was Commander-in-Chief in the West Indies, where he did some successful fighting. The same Christian names were borne by several of his successors, who are commemorated at Kirkpatrick. The title became extinct in 1859. The clan took a prominent and valiant part in the turbulent scenes of border foray. They were for the most part fast allies of the Johnstones in their feuds with the Maxwells. After Johnstone of Annandale had made a raid on the Maxwell country (in 1585), burning Cummertrees, Duncow, and Cowhill, he found refuge in Bonshaw Tower; and here he was found by Earl Morton and a force of the Maxwell's friends, after they had burned the tower of Lochwood, "to give Dame

Johnstone light to set her hood." Cannon were planted against the tower, but a pacification was effected through the intervention of the English Lord Scrope. The peace was not, however, of long endurance. The bloody battle of Dryfesands followed in 1593; and Edward Irving of Bonshaw and his four sons were included in the respite granted by King James VI. to Sir William Johnstone and eight score others for the slaughter of Lord Maxwell, the King's Warden, on that occasion. At an earlier date Christopher of Bonshaw and his son had fallen with the flower of Scottish chivalry at Flodden, and "Blacke Christie" of Robgill (so named, tradition says, from the colour of his armour) was one of the victims of Solway Moss. The clan took part with the Armstrongs and other families of the Debateable Land in many a raid across the Border, and they had need of strong and numerous towers to resist reprisals. A curious document of date about the middle of the sixteenth century (drawn up by an English military officer) gives the name of "heidsmen within Annerdale," with the number of "most able horsemen" that they could bring into the field; but as it was obtained by the representative of a hostile power, and probably from tainted sources, it cannot be accepted as authoritative. The following is the list of the Irvings, extending to three score and four horsemen: Cuthbert Irrewing and Watt Irrewing, xiiij horsmen; Herbert Irrewing of the Kyrk, iij horsmen; the proctour of Luce, ii horsmen; Duke Rechie, x horsmen; William Irrewing of Southwoode, x horsmen; Christie Irrewing, Mathoes sone, iij horsmen; Christei's sone of Boneschaw, v horsmen; Hebbe Irrewing of Trailtrow, iiij horsmen; Jefferay Irrewing, viij horsmen; Dawe Irrewing, vj horsmen.

Another character in which the Irvings figured was as King's-men in the struggle with the Covenanters. One of them had the equivocal honour of arresting, and so bringing to the scaffold, one of the most intrepid of the Covenanter leaders. Donald Cargill. The story is quaintly told by John Howie, with characteristic comment and addition.

Cove was the first of the ancient seats of the Irvings to be called at. It passed out of the hands of the family by sale in 1846, and is now the property of the marriage contract trustees of the Hon. Patrick Greville Nugent and his wife. There is here no remnant of the tower; but in the face of a steep cliff near to

the mansion-house, and adjoining a particularly charming dell on the Kirtle, is a cave around which hangs an air of old romance. It is an opening in a steep wall of sandstone; some twenty-five feet from the level of the stream, and, roughly, as far from the top of the cliff, and the only access to it is by a wooden platform or bridge overhanging the precipice, at the end of a winding footpath. The cave is roughly circular in shape, its greatest diameters being 17 feet and 13 feet, and its height 6 feet 8 in. It has been protected by stout double doors or gates, for the reception of which the opening has been chiselled and the rock pierced with socket-holes. There are also four holes in the rock, which would serve purposes both of ventilation and observation, and might also be used as shot-holes in case of an enemy approaching. Within the cave is a recess in the rock that would serve the purpose of a cupboard or "aumry." On the roof and walls many initials are carved or scratched, and one is accompanied by the date 1717. Legend has associated the mysterious Druids with the early occupation of the cave. It is also said to have formed a hiding-place of Bruce. The story is that the King was in hiding at Bonshaw when an English force invaded Annandale in quest of him; but before their arrival he had been conveyed to this cave, where he was maintained in secrecy for six weeks; the English meanwhile continuing their march northward after they had knocked down a portion of Bonshaw Tower and vainly tried to burn the rest. Certainly King Robert in course of his wanderings was driven to shelter in many a place less secure and quite as comfortless as this would be; and within this nest of the rock he may have revolved the plans that were to issue in the ultimate vindication of his own rights and his country's independence. Whatever the original purpose or early history of the cave, it would readily lend itself to the arts of the smuggler, and a cottage that anciently stood athwart the pathway, with its back to the cave, would aid their efforts at concealment. The present proprietrix during a brief residence at Cove caused the following inscription, in which her own Christian name occurs, to be carved in old English letters (without any capitals) over the entrance:

Kynge Robert Bruce from foes pursuunt soughte a truce.
Lyke my forbearers who for hymn fell
I Ermengarde doe guard yt well.

Crossing by a footbridge the party inspected an ancient

British grave in a coppice near the village of Irvingtown. A circular stone cairn, from 35 to 40 feet in diameter, has been raised over the grave, and from this circumstance we may conclude that it enclosed the remains of a chief or other person of consequence; but the stones have been in great part removed, and the flat stones forming the sides of grave, in the centre of the pile, are seen in position. They have probably, however, been pressed together and some removed, so that no exact measurements are obtainable, and any bones or other remains which the tomb may have contained have disappeared.

Resuming the drive, and passing the busy Cove Quarries, the party next halted near the old tower of Woodhouse, where they were met by Colonel Irving of Bonshaw, who was for the afternoon their guide, philosopher, and host. The laird of Bonshaw is a stalwart borderer, with all the old border fire, and a passion for the border land and the clan, who took part in the Abyssinian expedition under Lord Napier of Magdala, and closed an active military career as Colonel of the Manchester Regiment.

Merkland Cross was visited on the way to Bonshaw. This is a sandstone shaft, with circular floriated top formed of three fleurs-de-lys, the total height, exclusive of the base, being 9 feet 9 in. It stands a little off the public road, in a field on the Woodhouse property and adjoining the hamlet of Merkland. It is believed to mark the spot where John, Master of Maxwell, was killed in 1484.

Bonshaw Tower was the final stage of the outward journey, and here a most hospitable welcome was extended to the visitors by Colonel and Mrs Irving and their family. The old tower is in excellent preservation, and owes much to the protecting hand, intelligently directed, of the present proprietor. In close proximity to it is the mansion-house, erected, as a date stone over its south entrance indicates, in 1770. That stone also bears the initials of William Irving, the owner of the period, and his wife, Janet Douglas, a daughter of the Marquis of Queensberry. Colonel Irving has closed this door and connected the tower and mansion by a covered hall, giving access to both, and the tower is in regular occupation. Over its doorway is the pious inscription in antique lettering: "Soli Deo honor et gloria." (Honour and glory to God only.) Set into the roof of its small square porch is a stone having engraved on it the sacred monogram in Hebrew

characters. This is known as the Crusader's stone, having, according to accepted tradition, been brought from Palestine by a member of the family who drew his sword against the infidel, and brought here after being blessed by the Pope. It is reputed to impart a blessing to all of the name of Irving who pass beneath it. The virtue is strictly limited by membership of the clan. Not much can be made of the dark ground storey, which would be the retainers' kitchen. Here, however, the visitor is able to inspect the dungeon, a grim apartment in the thickness of the broad wall; and a great stone bin, which would hold store of salted provisions in time of need, is still intact. The upper storeys are all turned to useful purpose, and are approached by the original narrow spiral stone stair, on which a stout hanging rope serves for hand-rail. The apartment occupying the first floor is the library, and it contains also a wonderful collection of curious and interesting articles, many of them connected with the family history, and some trophies from a temple at Magdala, where the Colonel led a storming party. The room, which would be the grand hall of the tower, is in perfect preservation. An arched recess in one of the walls has formed a small altar. In one of the window recesses are the stone seats from which the shot holes could be served in case of siege. The apartment overhead has been converted into a bedroom, and that forming the third floor (where the great oak beams are still intact, and joined by bolts of wood) serves the purpose of a smoking-room. The battlements command a splendid view of Lower Annandale. Over the entrance door are the holes from which, in case of an attack being pressed home, molten lead could be poured on the assailants. Colonel Irving has also restored the ramparts to the east and south of the tower, and mounted on them ship's guns, each with its pile of ball.

Mr Barbour, vice-president of the society, voiced the thanks of the members to Colonel Irving and his family for the great kindness extended to them; then, at six o'clock, a start was made for Annan, by way of Breconbeds.—*Dumfries Standard*.

20th September, 1902.—Loch Urr.

A field meeting of the Society was held on Saturday, 20th inst., when a party numbering about twenty drove to Loch Urr with the object chiefly of inspecting an island which is commonly supposed to be a crannog or ancient lake dwelling. Proceeding by the Irongray road and Glenesslin, they made short halts at Irongray churchyard and Routan Bridge. They had also opportunities by the way of noting the progress being made with the construction of the Cairn Valley railway. On the other hand, as they ascended Glenesslin the ruins of cottages, single and in clusters, on the hill-side and by the road, bore witness to the process of rural depopulation; and the silent harvest field, where a couple of hands attended the self-binder, in place of the merry group of a past generation, indicated at once a cause and an effect of the change. Loch Urr was reached about half-past one. It is a hill lake of 125 acres (being about half the size of Lochrutton), located in a "wilderness of heath and rock," at an altitude of 625 feet. Just over the hill Carlyle had no difficulty in attaining what his friend Emerson styled "the necessity of isolation which genius feels." From the peat bog are dug large oaks and well grown birches and hazels; but now only a rare clump of trees breaks the monotony of the moor and marks the site of a lonely dwelling. Except for a few shrubs and saplings at the northern end, the shore of the loch is bare. Obviously there has been a change in the soil or climatic conditions since heavy timber flourished here. Three parishes meet at the loch—Glencairn and Dunscore in Dumfriesshire, Balmaclellan in Kirkcudbrightshire; and the farms which encircle it are Loch Urr, Craigenvey, Craigmuaie, and Monybuie. There are two islands off Craigenvey shore. In the narrow channel which separates them is a slightly submerged roadway of stones, and the shoreward one, which is much the smaller of the two, has been connected with the land by a similar path. It was to the larger island that the attention of the visitors was principally directed. This is a nesting place of the black-headed gull, and in the month of May their eggs are laid upon almost every foot of its surface; but at this season the only indications of bird life are the sight of an occasional water hen on the loch and the whir of the grouse on the adjacent moors. The island is a bare oblong, roughly 150

feet by 50, raised very little above the winter level of the water, apparently consisting, so far as its structure is exposed, of a great heap of stones, with a thin covering of earth. A little spade work sufficed to pierce the overlying deposit and lay bare the stones at a depth of eighteen inches at one point, near the margin, and about three feet at another. There is a tradition, embodied in various gazetteers, that there was "a castle" on the island, of which the remains are distinctly traceable. Certainly there are evidences of dry stone walls, but of any building with mortar there is none. These walls would seem to point to occupation of the place at a comparatively recent date, but to prepare any reliable plan of them would involve considerable labour. It is obvious also that the questions whether there has been an earlier lake dwelling, and whether that was entirely formed of stone or raised on a structure of wood piles and beams, can only be determined by excavation. It was resolved to apply to the proprietor for permission to undertake further investigation, and if this should be granted to employ a couple of workmen for a week in order to ascertain whether it would be worth while proceeding with any more elaborate scheme. Mr John Corrie of Burnbank, Moniaive, who joined the party at the loch, undertook to superintend the operations.

Mr and Mrs Hepburn, who occupy Loch Urr farm house as a shooting lodge, extended their hospitality to the visitors, and placed a boat at their disposal. Before leaving Mr Barbour, architect, tendered to them the cordial thanks of the society for their kindness.

Mr Corrie submitted the following list of rarer plants to be found at Loch Urr:—*Lobelia dortmanna* (water lobelia), *utricularia minor* (lesser bladderwort), *utricularia intermedia* (intermediate bladderwort), *scutellaria galericulata* (scull cap), *lythrum salicaria* (purple loosestrife), *carex pauciflora* (few-flowered sedge), *carex filiformis* (slender-leaved sedge), *polygonum amphibium* (amphibious polygonum), *polygonum minus* (creeping p.), *salix pentandra* (bay-leaved willow).—*Dunfries Standard*.

LIST OF MEMBERS OF THE SOCIETY

As at February, 1905.

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- Yerburgh, R. A., M.P., Barwhillanty, Parton, Kirkcudbrightshire.

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NATURAL
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Vol. XVII., Part 3.

THE TRANSACTIONS

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JOURNAL OF PROCEEDINGS

OF THE

DUMFRIESSHIRE AND GALLOWAY

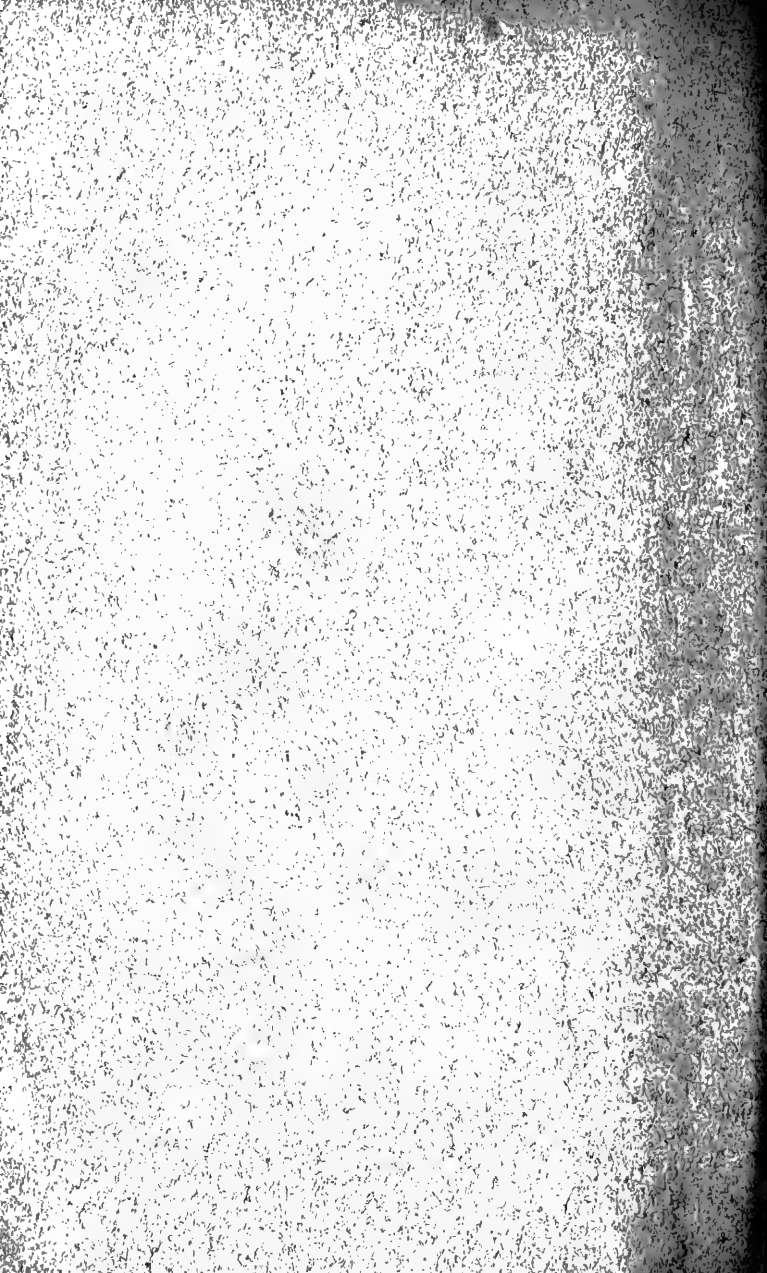
Natural History and Antiquarian Society.

FOUNDED NOVEMBER, 1862.



SESSION 1902-1903.

PRINTED AT THE STANDARD OFFICE, DUMFRIES.
1906.



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EDITORIAL NOTES.

The Editor of the "Transactions" regrets that some valuable papers, which were mislaid previous to his appointment, cannot, therefore, be published in detail. It has also been found necessary, on account of the expense involved in publishing an issue containing three years' proceedings, to omit a few papers and to condense others of considerable value.

It is the intention of the Council that the "Transactions" should appear annually in the future.

This issue forms Parts 3, 4, and 5 of Volume XVII. of the series begun on the re-establishment of the Society, and completes the volume. For the convenience of those who desire to bind the volumes, a complete index to Vol. XVII. will be found at the end of this issue.

Copies of the greater number of the issues of the "Transactions" can still be had, and will be supplied by the Treasurer, Mr M. H. M'Kerrow, solicitor, St David Street, Dumfries, who will give information regarding the prices of these.

Dumfries, January, 1906.

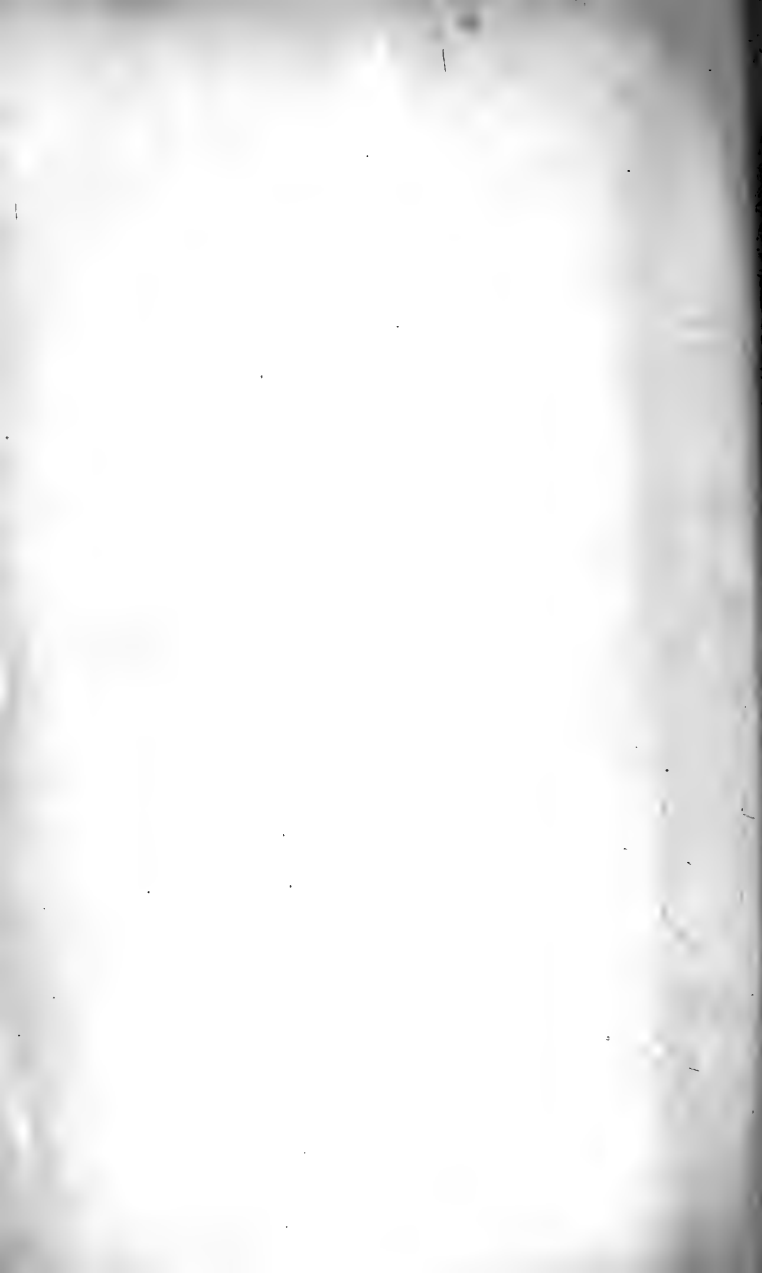
NOTICE TO MEMBERS.

It is hoped that Members will endeavour to add to the membership of the Society, and the Secretary will be glad to receive the names of those who wish to be proposed as members.

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PROCEEDINGS AND TRANSACTIONS

OF THE

DUMFRIESSHIRE AND GALLOWAY

NATURAL HISTORY & ANTIQUARIAN SOCIETY.

SESSION 1902-3.

17th October, 1902.

ANNUAL MEETING.

Mr R. SERVICE, Vice-President, in the Chair.

The Chairman delivered an interesting address, in which he suggested means for stimulating interest in the Society, and pointed out departments of its work in which fresh research might be made.

NEW MEMBERS.—Mr Thos. Henderson, Afton Lodge, Lockerbie, and Mr Jas. Reid, Chemist, Dumfries.

Letters were read from Sir Herbert Maxwell, President, and Mr Bertram M'Gowan, Secretary, regretting that they could not continue to occupy these offices on account of other engagements. The meeting received these resignations with regret.

The following were elected Office-bearers or Ordinary Members of Council: President, Professor G. F. Scott-Elliot, M.A., F.R.G.S., F.L.S., etc.; Vice-Presidents, Rev. J. Cairns, Mr R. Murray, Mr R. Service, and Mr J. Barbour; Secretary and Treasurer, Mr J. A. Moodie; Librarians and Curators, Rev. W.

Andson and Mr J. Lennox; Curators of Herbarium, Mr Scott-Elliot and Miss Hannay; Ordinary Members, Dr Maxwell Ross, Dr Martin, and Messrs J. S. Thomson, J. Davidson, S. Arnott, and Dr Semple, and Misses Hannay and Cresswell.

14th November, 1902.

Chairman, Mr JAMES BARBOUR, Vice-President.

NEW ORDINARY MEMBER.—Sir Herbert Maxwell, M.P.

I.—CINERARY URN FOUND AT NEWTONRIGG, HOLYWOOD, IN
CAIRN VALLEY RAILWAY CUTTING, MAY, 1901.

By Dr J. W. MARTIN.

In this paper Dr Martin gave a description of a Cinerary Urn, which was found by one of the workmen engaged in the construction of the Cairn Valley Railway. He exhibited the fragments, and gave an interesting description, of which the following is a summary:—

The urn had unfortunately been shattered by a workman's pick before it was observed. It was found on a somewhat flattened-out knoll, which is level at the top and overgrown with trees, at a depth of three and a half or four feet, embedded in loose earth, with no evidence of a cist or cairn. It had the appearance of a solitary burial, the body having first been reduced to ashes. The urn was of clay, probably baked, sun dried, and not wheel made. Particles of sand were mixed with the clay, which was yellow without and black in the inside. It broke with a coarse fracture. The diameter would probably be $8\frac{3}{4}$ inches across the mouth, and the clay was five-eighths of an inch thick at the lip, narrowing as the vessel sloped inwards to a thickness of three-eighths of an inch. There was a slight bead ornament round both the top and bottom of the broad flat band which formed the top of the urn. It contained numerous small fragments of human bones, apparently those of an adult female. It was undoubtedly an example of ancient British burial, probably pre-Roman, and, of course, pagan.

II.—A YEAR'S OBSERVATIONS OF THE MAXIMUM AND MINIMUM TEMPERATURES OF THE RIVER NITH AT DUMFRIES, AND ITS ESTUARY AT GLENCAPLE. By Rev. W. ANDSON.

(The observations at Dumfries made by Mr Andson, assisted by Mr W. Dickie and Mr Cunningham, boat-hirer; and at Glencaple by Rev. Jas. Malcolm, assisted by Capt. Hunter.)

After referring to similar observations made by him, and recorded in the "Transactions," Mr Andson explained that the present were made at the request of Mr Calderwood, Inspector of the Salmon Fisheries for Scotland, and the method adopted was in accordance with his suggestion, i.e., two self-registering thermometers were used; the one maximum and the other minimum; kept constantly in the water below the boat-house landing stage on the Nith near the New Bridge, and daily or almost daily examined. The following table was submitted, followed by the succeeding remarks:—

Tabular View of Temperatures of River Nith and its Estuary, along with that of the Air, for a year from 1st June, 1901, to 31st May, 1902.

Month.	RIVER.					ESTUARY.			AIR.
	Hig'st.	Lowest.	Mean Max.	Mean Min.	Mean Tem.	Hig'st.	Lowest.	Mean Temp.	Mean. Temp. in Shade.
Jan.	46	31·5	40	36·3	38·1	45	32	39·2	39·2
Feb.	41	31·5	35·2	33	34·5	40·5	32	34·9	34
Mar.	49	36·5	44·3	41·4	42·8	47	41·7	43	43·8
Apr.	52·8	39	47·8	42·7	45·2	53·2	41·1	44	46
May	59	43·5	52·6	47·5	50	58	47	50	47·3
June	64	46	59·4	55·1	57·2	64	53	58·2	56
July	74	57	68	64·3	66·1	71·7	59·5	65·6	64·6
Aug.	70·5	48	62·2	57·6	59·9	69	50·3	62·1	59·2
Sep.	61	50·5	57·5	53·3	55·4	60	54·5	57·2	55·8
Oct.	60	42·5	50·9	46·1	48·5	59	45	49·9	48·3
Nov.	49	32	42·7	39	40·8	47·8	38	43·1	40·8
Dec.	47	32·5	38·2	36·1	37·1	45·3	33	37·6	37
Year	74	31·5	49·9	46·3	47·8	71·7	32	48·7	47·7

If we compare the river temperature observations with those of the shade temperature of the air, which may be reckoned as that of the land, we find in one respect a great difference. I mean in the range of temperature in the two sets of observations. The range of the river observations is much more limited than

that of the air or land. The highest temperature recorded for the river was 74 deg., on the 20th of July, and the lowest was 31.5 deg., say 32 deg. to avoid fractions, on the 10th of February, giving a range of 42 deg. for the year. In the air or land observations, on the other hand, the highest temperature was 90 deg., on the same day in July, and the lowest 6 deg., on a day in February, which would give an annual range of 84 deg. As the above values, however, were abnormal, I prefer to substitute for them a fifteen years' average of the highest single day temperatures, and a similar average of the lowest, which would alter the range to 84 deg. for the highest and 14 deg. for the lowest, and show an annual range of 70 deg. for the air, as compared with 42 deg. for the river. The mean maximum for the year being 49.9 deg., and the mean minimum 46.3 deg., the mean daily range would only be 3.6 deg. For the air the mean maximum was 54.4 deg., the mean minimum 40.5 deg., hence the mean daily range would be 14.4 deg. But now, when we compare the mean annual temperatures of air and water, we find a remarkable agreement. They almost exactly coincide. The one (air) is 47.7 deg.; the other (water) is 47.8 deg. The difference amounts to only one-tenth. I may mention that authorities on the subject lay it down as a rule that the temperatures should coincide. Thus Dr Hugh Robert Mill, in his book, entitled "The Realm of Nature," says:—"The temperature of a river in the temperate zone follows that of the land over which it flows, and it is thus subject to considerable variations between day and night." Hence the use of self-registering minimum as well as maximum thermometers to record the temperature is fitted to secure greater accuracy; and when the yearly mean, founded on such observations, is found to correspond with that of the air for the same period, it is only what might be expected, and may be regarded, indeed, as an evidence of the accuracy of the observations. This coincidence of annual means does not, however, necessarily imply a like coincidence in the monthly means. It will be seen from the table that the months in which they approximate most closely are the autumn and winter months, and those in which they diverge most are in spring partly, but still more in summer. In August, September, October, November, December, February, and April there is only a difference of a fraction of a degree, but in January, March, May,

June, and July from 1 deg. in March to 2.7 deg. in May. There were four months in which the temperature of the air was slightly higher than that of the water, one (November) in which it was exactly the same, and seven in which the temperature of the water was highest, but only to a very limited extent, the excess and the deficiencies almost balancing one another. If now we compare the temperature of the river with that of the estuary at Glencaple, we find a different result. The annual means, instead of coinciding, show an excess of almost 1 deg. in favour of the estuary, viz., 48.7 deg. The annual mean of the river as ascertained by the observations ten years ago, was 48.5 deg., as compared with 47.8 deg. The explanation of this is very simple. The observations of the estuary having been taken always at or near high tide, and during the day, would, as a rule, be near the maximum, while those, both of the river and the air, were calculated from the combined maxima and minima of each day; and then the flow of the tide over a large extent of sand on warm, sunny weather must also necessarily have the effect of increasing the estuary temperature. It may be interesting to bring out the seasonal variations of temperature, both in the river and estuary, as compared with those of the air. Dividing the year into four seasons—winter, spring, summer, and autumn—with three months each, the following table will show the variations:—

			River Water. Mean temp. Deg.		Estuary. Mean Temp. Deg.		Air. Mean temp. Deg.
December	...	...	37.1	} 36.5	37.6	} 37.5	37
January	...	...	38.1		40		39.2
February	...	...	34.5		34.9		34
March	...	...	42.8	} 46	43	} 45.6	43.8
April	...	...	45.2		44		46
May	...	...	50		50		47.3
June	...	...	57.2	} 61.6	58.2	} 61.9	56
July	...	...	66.1		65.6		64.6
August	...	...	59.9		62.1		59.2
September	...	...	55.4	} 36.5	57.2	} 37.5	55.8
October	...	...	48.5		49.9		48.3
November	..	...	40.8		43.1		41.3

From this table it appears that the temperatures of spring—including March, April, and May—approximate most closely those of the estuary, and the air differing only by one-tenth of a degree, viz., 45.6 deg. for the estuary and 45.7 deg. for the air, while the river has a mean of 46 deg.—the highest of the three by a

fraction of a degree. In winter, including the months of December, January, and February, the temperature of the river and the air differ by only two-tenths of a degree, the air being highest, 36.7 deg., and the river 36.5 deg., while the estuary is 37.5 deg., about one degree higher. The greatest difference is in summer—June, July, and August—when the river and the estuary are both in excess of the air, the former by fully 1.4 deg. and the latter by 2 degrees. In autumn, again—including September, October, temperatures respectively of 48.2 deg. and 48.4 deg., while the estuary is more than two degrees higher, viz., 50.6 deg.

III.—THE LOCH URR CRANNOG. By Mr JOHN CORRIE.

Loch Urr, or Loch Orr as it is often called, is a small hill lake on the boundary between Dumfriesshire and Kirkcudbrightshire. According to the O.S. map, it is 623.9 feet above sea level. Its area is 137.765 acres, of which 33.741 is in Balmaclellan, Kirkcudbrightshire; 33.125 in Glencairn, Dumfriesshire; and 50.899 in Dunscore, Dumfriesshire. The place which Loch Urr fills in history is not large. Chalmers, in his "Caledonia" (page 217, vol. iii.), lays Symson's MS. account of Galloway (1684) under contribution as follows:—

"Loch Urr, which has a circumference of three miles, lies partly in Dumfriesshire and partly in Kirkcudbrightshire. Symson says it is replenished with pike and salmon. It has two islets; on one of these there is an old castle with plantations of willows; and here wild geese and other wild fowl breed. From the eastern bank there is an artificial road leading into the castle isle; this causeway is now about knee-deep under water." The "Old Statistical Account" says:—"Small island with remains of stone walls." Fullarton's Gazetteer of Scotland (1844) introduces matter of a more controversial character. At page 789, vol. ii., we read:—"Loch Urr seems to be the Loch-cure of Camden, from which he erroneously represents the Nith as issuing, and which he states to have been the site of a town of the Selgovæ, called by the Romans Corda. The islet may possibly have borne on its bosom some Selgovæ huts; and it certainly was the site, at a later date, of an important though unstoried castle. Some ruins which remain show the fortalice to have had great strength of wall and a variety of apartments."

Dr Munro's "Ancient Scotch Lake-Dwellings" contains no description of Loch Urr. It finds a place, however, in that writer's tabular list of lake-dwellings, where it is included in Class 2—"Constructed of stone, earth, etc." It would thus appear that the island in Loch Urr has long been recognised as a place of early human habitation, and it is in no way surprising that the attention of the society should have been directed to it as a fitting subject of investigation. With the permission of the proprietor, excavations were made.

The work of excavation was almost entirely confined to the larger island. The entire island is covered with a considerable surface deposit, consisting of decayed, or partially decayed, vegetable matter. This deposit was found to vary greatly in depth; in some places it was as much as two feet three inches; in others not more than nine inches. The sub-soil could not be penetrated to any depth owing to the presence of water. The surface material was removed with the utmost care, exposing the walls of the various enclosures to the foundation. All the walls gave evidence of care in construction. No trace of mortar was visible, and it is improbable that any mortar was used. The amount of debris found at the base of the walls or in the neighbourhood was not large, a fact which seems to justify the inference that the walls were not carried to any great height, probably not more than three feet at the most. The height of the portions at present standing is about two feet, and the thickness, which is nearly uniform throughout, is two feet three inches. The outer wall, which encircles the main island, although built of dry stone in much the same manner as the inner enclosures, has evidently been of a more important character altogether. The height has been greater, the thickness in some places is as much as six feet, and, near to what seems to have been the entrance, additional stonework in the form of rude buttresses are found. This wall seems to have been undermined, and to have then fallen outward. Hence the large quantities of stone found around the margin.

The remains at Loch Urr then consist of :—(1) A gangway of stone, 114 feet in length, entirely submerged, and affording a secret means of communication with the island from the shore; (2) a small island, 66 feet in length and 33 feet in breadth, on the line of the gangway; (3) a second gangway of stone, 56 feet in

length, and partially submerged, communicating with the main island; (4) the main island, with ruins of outer wall and four inner enclosures.

We come now to speak of the earthwork. If the O.S. map is referred to it will be seen that a point of land, bearing the significant name "White Isle," juts out from the Dunscore side of the loch and forms a peninsula some six acres or thereby in extent. This portion of ground takes a somewhat conical form, and it is upon the neck of land which connects this knoll with the mainland that the earthwork is found.

It consists of a well-defined rampart and ditch, and appears to have been a work of some importance. The length of the rampart may be stated approximately at 500 feet. On the west side, where the rampart is most entire, it rises above the present ground level of the trench in front to a height of between eleven and twelve feet. At the rear the height is about four feet. Two sections were cut here; one through the rampart itself; another through the ditch in front. The rampart was found to be composed of a stiff white clay, mixed with rough gravel. This overlies the original soil to a depth of six feet six inches, measuring from the centre of the rampart. No stone larger than coarse gravel was found here; but it may be mentioned that stones show through the surface at two points on the face of the rampart, and at one at least of these points the stones have evidently been arranged so as to overlap one another. I observe from the copy of the "Transactions" lately placed in my hands that Mr Barbour refers to a similar arrangement as occurring at Birrenswark. In the rear of the rampart a rough stone pavement ten feet in width was found. As this pavement lies near the surface, it has the effect of altering the character of the vegetation, and the pavement can be traced in this way along the greater part of the line of rampart. It should be mentioned that a wide gap of between eighty and ninety feet occurs almost in the centre of the earthwork. It seems probable that this portion has been broken down, but at present I have no proof to offer in support of this suggestion. The trench in front of the rampart was found to be silted up to a depth of five feet ten inches. This fact is important, for it proves, almost conclusively, that the point of land which we now know as a peninsula was at one time an island. The name "White Isle,"

which still lingers, seems to be reminiscent of such a period. That an intimate connection, for purposes of defence, existed between the earthwork and the lake-dwelling can scarcely be doubted. The two are little more than 300 yards distant from each other, and we know that fortifications on land adjacent to lake-dwellings are a more or less constant feature of such remains elsewhere.

Such are the details of the investigations at Loch Urr. I am afraid the results, so far at least as relics are concerned, are somewhat disappointing. No relics were found at the earthwork. In lieu thereof I submit two samples of earth which may prove of interest to the members [showing the white deposit of clay and gravel over the black earth]. The relics found during the excavations on the island are as follows: 1, a flint flake; 2, fragment of clay pottery; 3, fragment of red pottery; 4, other small fragments of pottery; 5 and 6, two round stone balls.

Through the kindness of Mr Barbour, all the specimens were submitted to Dr Anderson. He reports that No. 1 shows slight signs of use. That No. 3, the lip piece of pottery, showing indications of having been made on the wheel, may be of Roman times or later. Nos. 5 and 6 he pronounces "natural."

Is it possible with such slender data to form an opinion as to the period to which the lake-dwelling at Loch Urr belongs? I am afraid not. Dr Anderson's report favours the view that it is post-Roman, and that is, perhaps, as far as we can go with safety. That the Loch Urr lake-dwelling does not possess the characteristic features of the crannog proper goes without saying. I am disposed to favour the view that it is a natural island artificially strengthened, but Mr Barbour sagely reminds me that our early forefathers did not mind hard work, and it is perfectly possible that the main island, like the gangways, and in all probability the small island also, are the work of man.

I would only add that the thanks of the Society are due to Mr William Kennedy Moffat of Craigenvey and Shillingland for his kindness in sanctioning the excavations; to Mr Hepburn, Liverpool, for the use of his boat; and to the Rev. T. Kidd, Moniaive, for the photographs which accompany the report.

Mr Barbour remarked that the presence of the stone

buildings and the earthwork gave to the crannog a character different from any which had yet been described.

19th December, 1902.

Chairman—Mr ROBERT MURRAY, Vice-President.

I.—THE TOXIC EFFECTS OF COLCHICUMS ON BEES. By Mr SAMUEL ARNOTT, Carsethorn.

In this short paper the author gave the results of a series of observations upon the toxic effect produced upon bees frequenting colchicums in search of honey or pollen. The bees became stupefied and died.

II.—ACCOUNT OF EXCAVATIONS AT LOCHRUTTON LAKE-DWELLING. By Mr JAMES BARBOUR, F.S.A. (Scot.).

In a former communication (on page 128) to the Society on this subject I had the privilege of submitting a report describing the exploratory works then overtaken on the island, and the results, and the main inferences, it will be remembered, drawn from the facts disclosed, were:—(1) That the structural characteristics of the island are those of an epoch when the craft of carpentry had made some advance, and sharp-edged iron tools, such as the axe, chisel, and boring instruments, had come into use; and (2) that the island served as a place of human habitation and there had been a mediæval occupation of considerable opulence and prolonged duration.

I shall proceed first with the further description of

THE STRUCTURE OF THE ISLAND,

and shall most easily and intelligibly explain the details by reference to the accompanying plan, which, unfortunately, owing to the interruption of its preparation by the flooding of the floor, is incomplete. It does not show all the timbers exposed, but only so much of the work as was actually surveyed. Four trenches, marked A, B, C, and D, cut from the centre of the island to the outer margin, exposed the floor, which consists of logs of wood laid side by side, forming the pavement, and doubtless the parts

not exposed correspond. The pavement is more or less decayed, but few of the timbers are wanting. The most perfect part lies towards the north side of the island, and is partly detailed on the plan. It is regular, close jointed, and even, and comparatively sound.

The disposition of the timbers is peculiar. They are arranged in groups, lying in different directions, and the pieces are sometimes assorted in equal lengths as if prepared beforehand to go together. In the case of a forked piece a filler is inserted. The axe has been used to cut the pieces to the lengths required.

Another detail presents itself. A thin bed of stones is found between the log pavement and the layer of logs below it. The purpose the stones were meant to serve seems to be to fill up the inequalities of the lower layer and raise the smaller timbers of the pavement itself in order to secure a straight upper surface. Remaining inequalities were then reduced by the use of the axe. The swelled lower end of a large trunk 18 inches in diameter, for instance, was observed to be reduced to the general level in this way, and other timbers exhibit marks of similar treatment.

At the point marked E on the plan a flat stone was exposed, not large, but with others seemingly displaced, sufficient to form a hearth, and that such was its purpose, I think the presence of considerable quantities of charcoal proved. The hearth lay almost immediately over the log pavement.

Remains of super-imposed works near the north margin of the island are shown on the plan. One of these consists of two parallel oak logs, 9 to 10 feet in length, 11 inches by 6 in section, and 8 feet apart, overlying the floor. The logs are squared by means of an axe. Each exhibits three mortice-holes on the upper side, and pinholes passing through them at right angles; and fragments of two upright tenoned pieces measuring 6 inches by 5 on the section, reduced on the tenon to 5 inches by 5, and holed for the reception of the pins, were still in position. The logs were fixed in position by pins of oak driven into the floor.

A squared oak block 10½ inches by 8, and 4 feet 2 inches in length, rebated at the ends and grooved in the middle, described in the former Paper, and exhibited, lay about 10 feet south of, and at right angles with, the logs just described.

Another observable feature consists of a double line of logs, forming a raised ledge 8 inches high and 18 inches wide (H H).

It starts from the margin of the crannogs at a point about north-east, runs nearly westwards, and then southwards, dividing the area unequally. It does not cross the space between the morticed logs before described, but is found on either side of it. There are indications of a characteristic gateway, about 3 feet 6 inches wide, flanked by a return of the ledge, and with a group of five stout posts in front.

THE RELICS

Of the vestiges of occupation recovered during this year's operations very few were got from the trenches. Fortunately the refuse-bed was discovered, and from it were exhumed nearly all the objects to be described, those mentioned in the First Paper excepted.

Several oak posts driven into the floor of the structure project above the surface of the pavement, 8 inches or more. Four in the west section, at K, form apparently part of two rows, 19 feet and 27 feet respectively, from the south exterior margin of the island; in the south section, at L, three posts stand in a row, 11 feet from the margin, and another, at M, is 30 feet from the same point. Their purpose is uncertain.

A fragment of a morticed oak beam, corresponding with one represented at page 74 of Dr Munro's "Ancient Scottish Lake-Dwellings," fig. 36, was recovered, but not *in situ*.

Notwithstanding the partial description contained in the former Paper, I will, in order to avoid confusion, set out here the whole group, under different heads.

OBJECTS OF STONE.

Fragments of a circular vessel of red sandstone with level bottom and expanding sides, $1\frac{1}{2}$ inch thick, smooth inside, and neatly dressed with a point outside.

A circular hammer, and a circular disc, neither of them characteristic.

ARTICLES OF WOOD.

These consist of three shaped pieces of oak, for what purpose intended is not evident.

METAL OBJECTS.

An iron axe head. It is much corroded and broken, measures about $3\frac{1}{2}$ inches across the cutting edge, and $8\frac{1}{2}$ inches

in length over all. There is no hammer, and the handle-socket, which stops with a blind end, projects from the side of the blade.

An iron spear head $8\frac{1}{2}$ inches long and 1 inch across the broadest part of the blade. It is furnished with a socket, and the blade is marked with a central ridge.

A fragment of an iron knife blade, $1\frac{1}{4}$ inch broad, curving inwards, the edge returning at the point with a curve to the back of the blade.

Several nails and nondescript pieces of iron.

A bronze or brass pot foot, 2 inches long, and 1 inch broad, having projecting central bead and turned out end.

A bronze ring $\frac{5}{8}$ inch diameter, made of hoop, $\frac{1}{4}$ inch by 3-16, bent round so as to meet at the ends.

Several small pieces of sheet lead of different thickness.

An oval disc of lead, 1 3-16 inch by 1 inch, the thickness barely 1-16 inch.

Five leaden spindle whorls, 1 inch to 1 1-8 inch in diameter, about 1-8 inch thick, the holes 5-16 inch wide.

MISCELLANEOUS OBJECTS.

A small equal armed jet cross, personal ornament, described in former Paper.

A glass bead of sixteen sides, and holed.

A piece of bone or horn, shaped like a pin.

A shaped piece of horn.

A leather sole of a female's shoe. It measures $9\frac{7}{8}$ inches in length, the breadth is $1\frac{7}{8}$ inch at the heel, $1\frac{1}{8}$ inch at the hollow of the foot, $2\frac{7}{8}$ inches at the widest part, and the toe is sharp at the point.

The toe part of a male person's foot-dress, broad and round, made of half tanned skin.

POTTERY.

This article, which I am assured is both ancient and interesting, again bulks largely. It is difficult to convey a just idea of the quantity recovered. When I say there are about 600 fragments, it is necessary to explain that the pieces are very small, measuring from $\frac{1}{2}$ inch to five or six inches across. That a large number of vessels are represented is obvious from the difference of the ware, shape, colour, and style of ornamentation. In one respect there is uniformity—all the fragments present the peculiar

glaze believed to be characteristic of the work of mediæval manufacture. As the general description of the pottery contained in the former Paper applies to the whole, it need not be repeated, but something may be added by way of setting out more fully the different styles of the ornamentation.

The pottery is so fragmentary that in most instances the designs are incomplete. It exhibits ornamentation either incised or in relief, or both, but colour decoration is absent. Of incised designs the most simple consists of thumb marks, usually found round the bottom of the larger vessels.

A number of pieces of ware, $\frac{1}{4}$ inch thick, red inside, and finished outside with a yellowish brown glaze, representing one or more vessels of a form contracting in the middle and expanding above and below, are enriched nearly all over with a kind of herring bone or fern-like ornament, scratched into the soft clay.

A fragment of fine hard ware, $\frac{1}{4}$ inch thick, bluish in the fracture, grey inside and glazed outside a greenish brown colour, part of a large vessel, is marked with incised ornament, consisting of a pair of vertical lines and short sloping strokes on either side, forming together a broad fern-like design.

A piece of ware, enriched with an incised undulating line.

Several pieces of fine ware, black inside, and glazed outside bluish green, are enriched with vertical ribs in relief, laid on in slip, and between them with incised lines half an inch apart, in horizontal or more or less sloping directions.

Fragments of hard ware, black inside and green glazed outside, enriched in relief with vertical rope-like ornament, terminating with tasselled ends.

Several pieces of ware, red inside, glazed green outside, decorated with a net-like pattern in relief, having knots at the intersections of the lines, all laid on in slip. The design is imperfect, but it has evidently been elaborate. The vessel was probably square or octagonal shaped, as the pieces show scarcely any curvature.

A piece of thin ware, bluish grey inside, and of a brownish colour outside, and glazed, shows a vertical ornament in relief crossing with a knot, a horizontal line in relief, and terminating in a ball pendant. There is only a fragment of this design.

The handles of vessels, of which there are upwards of forty, are moulded or otherwise ornamented. One is marked longitudi-

nally with four sharply incised lines; another is rope-like, and at its junction with the vessel the shoulder is fluted.

FOOD REFUSE.

A large addition has been made to the food refuse, consisting of animals' teeth, including 6 boars' tusks, and a considerable quantity of bones, nearly all of them broken, presumably in order to extract the marrow. These were submitted to Dr Thomas H. Bryce, Queen Margaret College, University of Glasgow, for identification, and the following is his report:—

REPORT ON BONES FROM LOCHRUTTON CRANNOG.

The bones forwarded to me for identification by James Barbour, Esq., from Lochrutton Crannog are, unfortunately, in a very fragmentary condition. The majority are bones of cattle, but of which species it is impossible to say in the absence of any sufficiently distinctive parts. The other animals are represented by a smaller number of parts, as noted below:—

1. Ox (*Bos* ?) teeth and fragments of various bones.
2. Sheep (*Ovis aries*, variety *domestica*), various bones.
3. Pig (*Sus scrofa domestica*), incisor tooth and canine of a boar.
4. Red deer (*Cervus elaphus*), metacarpus and various fragments.
5. Roe deer (*Capreolus caprea*), portion of a single cannon bone.
6. Horse (*Equus caballus*), two molar teeth and one metacarpal bone.
7. Fish (?), fragment of a single vertebra.

In answer to inquiries regarding some of the points mentioned in the report, Dr Bryce furnishes the following Note to Report on Animal Bones found at Lochrutton Crannog:—

In regard to the bones of the domestic animals of the above list, it may be interesting to note that they do not correspond to those of the modern breeds. In the absence of the distinctive horn-cores of the Celtic Shorthorn (*Bos longifrons*) it is not possible to identify the ox bones with certainty as belonging to that ancient variety of small ox, but such bones as exist correspond in size to those in my possession, which certainly belonged to *Bos longifrons*.

The sheep bones must be attributed to the ancient slender legged sheep, and not to any of the modern breeds.

The horse represented was a small animal of about 10½ to 11 hands. The only long bone of the limbs present is a metacarpal, which is not broken, and in the absence of any of the other bones broken like the ox bones, it is not possible to say whether the horse like the ox had been used for food.

I have now recorded the facts disclosed by the explorations, and they are respectfully submitted to the judgment of antiquaries competent in such matters. Having seen and as it were handled the facts, however, it may be useful to indicate the impressions I have formed of them.

THE STRUCTURE.

Referring to the super-imposed works, I would suggest that the raised stage, H.H., may be the basal part of a dividing structure separating the area into two unequal courts, the opening J in it being the gate or entrance to the more important division. The group of morticed beams or sleepers, F and G, and tenoned uprights, bisecting the dividing structure, is evidently, I think, remains of a wooden house, it may be a guard-room, tower, or dwelling, the length probably 20 feet, partitioned into two apartments.

The bed of stones covering the log pavement is a peculiarity. It seems to have been about 3 feet in depth. The breakwater of stones surrounding the island is also a notable feature.

If we compare this island with other Scottish crannogs investigated, it is found that it coincides, generally at least, as regards the constructive principles. The author of "Ancient Scottish Lake-Dwellings" indicates two prominent characterising features of such structures, viz., (1) upright piles in the form of one or more circles, and (2) the remains of flat beams containing large square cut holes at their extremities.

In this instance the first of these features has not been observed, although originally it may have existed. Of the second, the remains are meagre, but sufficient, I think, to prove conformity. And there are other evidences of agreement, such as the use of wood logs as the main element in the construction, the peculiar disposition of the logs in groups, the

levellings of stones between the layers of wood, and the use by the builders of sharp-edged iron tools.

The structure thus furnishes evidence from which to infer comparatively its chronological position. Being of the common type, it may be conjectured to have emerged during the crannog-building epoch in Scotland, which, according to Dr Munro, corresponds to the age of anarchy consequent on the withdrawal of the Roman soldiers from Britain. The strengthening and heightening of the island with stones, as previously described, was, however, there is reason to conclude, work subsequently overtaken, and it would appear at a time when the forests had given out, or the ancient art of crannog-building was lost.

It may also be conjectured that there had been two occupations. The floor of the original occupation was the log pavement; that of the later occupation was the bed of stones overlying the wood.

THE RELICS

furnish abundant evidence of the occupation of the island as a place of human habitation. That vestiges distinctive of the original occupation could hardly be expected to survive, considering the vicissitudes which seem to have attended the history of the island, may well be allowed, and while the food remains correspond with what is usually found on crannogs and other ancient sites of habitation, I do not know that any of it can with certainty be differentiated as belonging to the one settlement or the other. The pottery, the remains of the shoes, the cross, and the bead, are all, I am advised, characteristic of mediæval times.

I may now summarise in a word the leading characteristics of this crannog and its products as compared with results obtained on other investigated sites of the class. (1) The original structure itself, although now deficient in the completeness of some of the usual features, essentially follows the common plan; (2) the strengthening and heightening of the crannog after subsidence with stones is, I think, an unusual circumstance; (3) the remains of the basal portion of a superstructure are well represented in this instance; (4) the food refuse here corresponds with what is found on other such sites; (5) whether arising from a meagre original occupation, or the obliteration of the products of it by the later works, there is in this case very little trace of articles characteristic of the earlier civilisation obtained on other

corresponding structures; (6) on the other hand, mediæval pottery and other objects of like character found very sparingly on similar sites constitute the special and most interesting feature which differentiates the Lake-Dwelling of Lochrutton.

It must be evident that the civilisation represented is not without marks of culture and refinement. Domestic animals were reared for food, such as the ox, sheep, and pig. These were supplemented with red deer, roe deer, and fish; and the pony, perhaps, in stress of circumstances, was not rejected for the table. Then the high-class pottery is a marvel to be found in use in such a place, and seems to show the urgency of circumstances compelling the retreat. Men with broad feet were there, who might handle the axe and spear, and the lady of the slender foot, wearing a little Greek cross inscribed with the sacred monogram, and supported probably by a string of sixteen-sided beads. Nor were the ladies idle. Five spindle whorls at last found their way to the refuse bed. The presence of ladies and their peaceful occupation predominates. A single spear is the only evidence suggestive of war.

III.—EXCAVATIONS ON THE SITE OF THE MONASTERY OF DUMFRIES. (Summer, 1901.)

By MR JAMES LENNOX, F.S.A. (Scot.).

Owing to building alterations in 9, 11, 13, and 15 Castle Street, it became necessary to take down eight buildings and to excavate the ground to the extent of nine feet deep for the formation of a cellar and warehouses above same.

The back portion was known to cover part of the site of the monastery buildings, so that on taking down the old buildings it was discovered that these had been built out of the remains of the still older building, the monastery, many of these were wrought stones. Some of these are described further on.

The excavations revealed a great number of human bones, some of which had been disturbed when the buildings, now removed, had been erected, as in one part these lay heaped together. The majority were as they had been deposited in mother earth, and in no case was there remains of wood, except one, in which was the body of a child, and this was much more recent than any of the other interments.

We found no buildings or human remains north of Nos. 2 and 6 on plan, but in every other part there were a great number of skeletons.

On going down from three to four feet we came on a rectangular foundation, 9 ft. 2 in. long by 3 ft. 5 in. broad, stretching N. to S. It consisted of well set foundations, with a few of what had formed a running course of hewn stones, as marked No. 1 on plan. These were 5 inches deep, with a facing slope of 3 inches and a straight face of $2\frac{1}{2}$ inches. This was quite detached from any other foundation, and just where we were told to expect the altar stones to the east of this, 9 feet distant, was the foundations of a wall of the same kind of sandstone as the one discovered.

These foundations were not quite continuous, as here and there they had been broken into for drainage purposes for the buildings just removed.

These are marked red on plan, and show a measurement of 45 feet north to south, with walls running west from them in the direction of Greyfriars' Street. The excavators could not fix the length of these, as the operations did not include the houses in Greyfriars' Street, but it is known that the roadway in that street stands on old vaults, and that the houses in both Greyfriars' and St David Streets did at one time form part of the buildings.

At the altar we found nine skeletons, with their heads against it and their feet to the east, and according to the custom of the period, probably ecclesiastics. On the south we found only two. These had their heads to the west and feet to the east. On the north and west there were no interments at the altar.

All the skeletons had fine sets of teeth, the wisdom ones being well developed, and in no case did we see any decay. The only other bones we could handle were the larger leg ones; the others, if they were visible, crumbled when exposed to the air.

South of the altar we came on traces of the earth having been disturbed at a much lower level than at any other point, and on digging down we found at the depth of nine feet from the surface a culvert of flat sandstones with a channel six inches broad, and three deep, covered with sandstone flags. On

following this up it proved to be a drain or culvert leading from the old well, also marked red on plan, to where it entered the property of Mr Haining, where at one time stood the Grey Horse Inn, where the convent kitchen fireplace used to be shown in our memory. This duct had clear water running in it when we opened it up.

On cutting a tunnel between two cellars we came on a heavy piece of masonry, also marked on plan, being an old wall of $4\frac{1}{2}$ feet broad and only supporting a 9 inch wall.

Owing to the fact that there were no inscriptions found, it is impossible to state whose the skeletons were, but, as is shown by historical references, the two found to the south of the altar were probably the Red Comyn and his uncle.

The best of the stones discovered were the font, which had been broken into three, and used in the building now removed. It measured when set up 21 inches across the lip and 13 inches in diameter; inside the lip this stone was $18\frac{1}{2}$ inches deep.

We also found a small procæneum, 6 inches by $4\frac{1}{2}$ inches inside measure; also a mullion of a window, showing good workmanship; and several rebates for windows or doors. There had been a small pilaster at one of the angles, with a diameter of $2\frac{1}{2}$ inches. In one case this pilaster entered a right angle, showing the lenthil of a door or window.

All hewn stones had mason's marks on them, as is the custom in ancient church remains.

Behind the back wall of the church were numerous skeletons. These were found when the street was paved nearly as far as the Burns Statue, where a wall runs from near to Messrs Low & Johnstone's shop, so that the graveyard had extended thus far east of the church, and after passing this wall no human remains were found towards St Andrew Street.

After quotations from John of Fordun and other ancient writers, supporting the conclusions at which he had arrived, Mr Lennox proceeded:—

The record of John of Fordun that the friars laid Comyn behind the altar is borne out by the discovery that the altar was nine feet from the back wall of the church. The only definite facts we have established by these excavations are these:—We have fixed the site of the altar and the breadth of the choir.

16th January, 1903.

Chairman—The PRESIDENT.

NEW MEMBER.—Mr J. R. Thompson, chemist, Dumfries.

I.—THE IDEA OF EVOLUTION, AND POSSIBLE FIELDS OF WORK
FOR BRITISH BOTANISTS.

By Professor G. F. SCOTT-ELLIOT, F.L.S., F.R.G.S., etc., being
his presidential address.

Professor Scott-Elliot said it seemed that the most interesting subject one could take would be that of evolution. If they took it in the right spirit, these wider ideas of science gave you a clue by which you can find your way through all minor departments. Such a science as botany, for instance, was generally divided up into little abstract sciences in which workers are without sympathy, in fact generally did not understand what their neighbours in the other compartments were doing; but with a proper idea of evolution, you could bring the whole of these workers into one continuous scheme. The general course of the subject of evolution was most easily shown by a very simple diagram. It advanced in a series of waves, followed by a dip. The first tidal wave was the work of Charles Darwin, which swept away all the accumulated rubbish of the middle ages, and left the ground clear for future workers. Darwin might be considered as the accumulation of a whole series of other people. Next came the sinking portion—the trough of the wave, chiefly due to theological and metaphysical objections—not strictly scientific at all—which sprang from a total misconception of Darwin's position. It was the cruelty, the barbarism of rooting out the unfit, which shocked the easy-going people of 1860; but by a curious confusion of ideas they blamed Darwin for the fact that he pointed out. Darwin was not responsible for the cruelty; he only pointed out the fact that it existed. Of course there was no foolish sentimentality about Nature, and there should not be any in business of any sort. But one of the fatal defects in this world was that for anything dear and precious you had to pay heavily. You could not get over that unfortunate arrangement of the world however you tried to do so. The next point was what was wrapped up in

what Darwin gave, and might he put down as harmony with environment. Every plant and every animal living to-day was adjusted more or less exactly to its conditions at that particular place and in that particular era. If they examined the commonest plant and looked at the shapes of the leaves, the teeth, and hairs on leaves, and then studied the conditions in which you found them growing, you would find that every one of these minute details were of real importance to its life. It was on these little adaptations by which the plant or animal came into the most perfect harmony with all the needs of its special atmosphere that he thought a great prospect lay for British botanists. Good books had been published on the subject by Sir John Lubbock and Kerner, and others; but so far he found in this country that people will not take up these interesting and important subjects, but preferred to spend their time on purely systematic work. The study of plants which were avoided or preferred by animals was a very important one, and we know nothing about it. Again, we do not understand much with regard to the scattering of fruit and seed, and a whole infinitude of subjects are not studied at all. The next development is of the nature of a denial. The inheritance of acquired characters was denied by Dr Weissmann, a German, who, however, brought forward no evidence except his opinion that it could not be true, because it interfered with his theory of heredity. That was scarcely scientific reasoning, and it was soon pointed out that if you denied the fact that a character acquired in life could be inherited it led you into very curious positions. For example, dipsomania could certainly be acquired, but according to Weissmann it could not be inherited. That criticism was got over, and with very great advantage to science, but its effect had been unfortunate, as it prevented a great many people from following up what seemed to be a very valuable field of inquiry. The next point was the struggle for life within the body of the plant or animal. Such an organ as one's hand or the foot of a horse was composed of an infinite number of little living particles. It had been pointed out by the German botanist, Rolfe, that these living cells or particles were competing for food with one another, so that if you used your thumb, and if the same amount of blood was passing into your hand, the excessive use of the thumb would dwarf the little finger or

whatever was not used. In that way they could explain a great many important points which were difficult to understand. For instance, one toe of the horse was developed enormously, and the other four toes which were not used had become starved and disappeared, because all the nourishment went into that one toe. That was a very important variation, and one that had never received in this country all the attention it deserved. It showed you at once how useless things would disappear, and it was also important for this reason that it brought clearly out the resemblance between the animal or plant's body, and the whole mass of individuals that made up a plant species. The disappearance of what was useless in the body of the plant was thus exactly similar to the disappearance of a useful species. The next point was one of those curious drawbacks or objections that constantly came up as if they were a sort of rebellion against the calm progress of scientific inquiry. That was the hybrid idea. People began to remark that hybridising gave a simpler explanation of evolution than those Darwinian ideas. That was all very well, but supposing they crossed two species then each species was tuned to the special conditions of the place in which it lived. The product hybrid of these two species would possibly be in harmony with the environment, and as a matter of fact hybrids, though common enough—for instance, the willows and others in this country were chiefly hybrid—did not seem able to breed and hold their own ground in the way that ordinary species did. Again, it had been recently shown that there was a curious tendency amongst hybrids to turn back either to one or to the other ancestral form. According to Mendel's law in the case of one dominant character, one-fourth would be the weaker character pure, one-fourth would be the stronger character pure, and one-half would be mixed with both strains in the blood. Here again was a vast opportunity for those who were interested in experimental work of that sort. The fourth great advance was associated with the names of Galton, Pearson, and others. This was the study of variation of the normal variation in one species. This was a mode or fashionable number or length for every character in a species, but abnormal individuals were exceedingly common. A very curious case was that of the 7-leaved clover, which was artificially produced by De Vries, who found plants of clover

with frequently four and five leaflets. He grew plants from the seeds of those, and gradually, by selecting those with the greatest number of leaflets, he obtained plants in which there were 29 per cent. of the leaves with seven leaflets. Clover with seven leaflets had never been seen by anybody, and in all probability it had never extended to the world at all. And if this botanist could produce a seven-leaved clover in this way in the course of a few years, he saw no reason that Nature should not be able to produce anything in the plant world in the course of a few centuries. Then there was the usual backward trend again, the usual trough of the wave following after Galton's and Pearson's discoveries, and that was an appeal to garden sports and variations. Everybody who had been at all observant in the fields or in gardens must have noticed a tendency for extraordinary and peculiar forms to develop apparently without any reason at all. These sports or bud variations were carefully examined by Dr Bateson and others, and the theory which Bateson was most inclined to follow was that evolution, instead of following in this gradual way, step by step and line by line, had come about by a series of sudden leaps or jumps. The question was more important from every point of view than it looked, because it came to be—Was progress due to a struggle for existence under evil circumstances and bad conditions, or were these great advances due to overfeeding? These bud variations were due to too much food and nourishment, whereas the small minor variations such as we found in such a case as this were due to the natural hard lines in which every plant found itself. The point he thought most conclusive of this question was this:—In any museum they would find instances of sheep with a supernumerary eye in the middle of the forehead or an extra leg tacked on somewhere on the middle of the back. They found cattle occasionally with two heads, and also in plants they found continual instances in which all the stamens and pistils had become petals. Could one suppose that things of that sort could ever produce an offspring, vigorous and efficient enough to overcome the difficulties of ordinary outside existence? He thought not. And, besides, if they looked to the general behaviour of the different wild species in this country they could see not what they should expect on this theory of sports, but exactly the condition which ought to come about if

the species were developed little by little and line by line. They found some plants quite distinct, recognisable everywhere. Others again could only be recognised by a good botanist; and then there were plants like the hawk-weeds, the brambles, and the roses that could only be recognised by one or, at the utmost, three people living, and those three people, from his own personal experience, very frequently gave quite different names to the specimen in question. Occasionally he had known cases in which specimens of the same bramble from the same bush were named differently by the same specialist in two succeeding years. All that led to the view that the formation of species had been in this gradual slow and cumulative manner. So far he had given them the average general doctrine on that question. The next stage was predestination—a very good old Scottish expression, and which was the only one he could think of to account for a good many facts that were otherwise inexplicable. If they took the development of the plant, the gradual building up of its complex body from the simple egg cell, they would see that every step from the egg cell upwards followed directly upon the previous step. They could not really imagine any change in the regular sequence of development unless there was a change in the circumstances or environment. It seemed that the truth was very much of the same nature as the truth of Newton's first law of motion—that an object would persist in its state of rest or uniform motion in a straight line so long as it was not induced by circumstances to change that motion. He thought the development of the plant was of the same ordinary continuous manner. Each step depended upon the previous one, and unless environment altered it, the sequence would be the same and lead to the same result. But not merely so, any change in the conditions and the surroundings, however slight, would affect that development and alter that development. Thus by these slow changes in the environment—most of which were utterly beyond the power of any instrument devised by mankind to record—we had a differentiation which had produced a complex mixture of characters which we called a species or plant. He would go so far as to say from his own experience of botany and plant life generally, that one found a very curious and a very striking resemblance between the laws concerning the individual—a single plant or animal body—

and the laws concerning a species or collection of individuals, and even beyond that a similar resemblance in the laws which governed associations or communities of species, such as, for instance, a wood or marsh or grass meadow. In a wood you found a number of different species living together in such a way that while each individual had its own existence, yet its existence was governed by the welfare of the whole wood. Also in a species we found something of the same sort, and again in cells of the body of a plant or animal. The existence of each cell was independent in itself, but it was governed by the act of the whole organisation. He thought, looking at things in that manner, that one gradually perceived the definite scientific reason for a great many points that were generally left outside the field of scientific inquiry. We found in nature one form of vegetation competing with another. The place where they were now had been at one time probably covered by coniferous or geological vegetation of some sort. After the retreat of the ice that neighbourhood would be first of all covered by a very scanty vegetation of alpine plants. Then would come probably a pine forest covering the whole of the Nith valley, and much later on the old Caledonian oak forest would cover the whole of that neighbourhood. And then, last of all, but still in perfect continuity with the preceding, they had that particular spot of ground utilised by the one animal that was capable of the reverent study of nature, and also of subduing nature for his own purposes. We saw that the vegetation of the earth might be explained and understood scientifically by the study of the first few chapters of Genesis. He was rather afraid when he chose that subject to address them upon that night that he might possibly hurt the feelings of some of them in dealing with this question of evolution from a wholly scientific spirit, but as they saw he had put down the origin of these variations to a vast quantity of minute and imperceptible changes in the environment, or if they wanted one word for it they might say to chance. They might ask—"What is chance?" There was no better answer than the very old one—chance was a cause unperceived by human logic.

16th February, 1903.

Chairman—Mr JAMES BARBOUR, Vice-President.

I.—THE ASSASSINATION OF THE RED COMYN. By Dr CHINNOCK,
LL.D.

The commonly received accounts of the assassination of the Red Comyn derived from Fordun and Barbour are recognised to be largely mythical. They were written sixty or seventy years after the event, and therefore do not possess the validity or credibility of contemporary authorities. On investigation I find that the most authentic account is given by Walter of Hemingburgh, an historian who lived at the time when the event occurred, and whose history is highly valued by students of that period of British history. I have translated his account of the murder of Comyn, and for the sake of verification I append the extract in his own words. John Comyn the younger, generally called the "Red Comyn," was the son of John Comyn of Badenoch, generally called the "Black Comyn." The latter was one of the claimants of the crown, basing his claim on descent from Donald Bane, the younger son of King Duncan and brother of Malcolm Kenmore, whom he succeeded as king. The Black Comyn married Margery, eldest sister of King John Balliol. By his mother, therefore, after John Balliol's own family, young John Comyn had the best claim to the Scottish crown. From the defeat of Wallace to his own death, the Red Comyn was the most powerful man in Scotland. He was appointed by the Scots after Falkirk the Guardian of the realm, and for six years held his position, defeating his English rival, John de Segrave, at the battle of Roslin, 26th February, 1303. After Balliol's renunciation of the crown, John Comyn might be considered the rightful heir, and Robert Bruce could not obtain the crown unless he were removed. Whatever may be thought of Comyn's desertion of the cause of independence, it cannot be denied that he was a great man. I should like to suggest that an inexpensive tablet might be placed in front of the house nearest to the site of the murder, which however inexcusable it may have in itself, was the cause of great good to Scotland; for it impelled Bruce to take the irrevocable step of assuming the crown.

Translation of an Excerpt from Walter of Hemingburgh's Chronicle, Vol. 2, pp. 245-246.

“In the year of the Lord 1305, Robert de Brus, fifth son of that Robert de Brus who, as before described, disputed with John de Balliol in the presence of the King of England about the throne of Scotland, and, as was shown before, his suit had been rejected by the judgment of the court, relying on perverse counsel, aspired to the throne; and fearing the lord John Comyn, earl of Badenoch, who was a powerful man in that country and faithful to his lord the King of England, to whom he had done homage, and knowing that he could be prevented by him, he sent to him in craft two of his brothers, Thomas and Nigel, to wit, begging him to be so kind as to come to him at Dumfries, as he wished to treat with him on some matters of business which concerned them both. For the justiciaries of their lord the King of England were sitting in the castle on the same day, to wit, the 10th of February, and he suspecting no evil come to him with a small retinue. They saluted each other with a kiss, but not of peace, in the cloister of the Minor Friars, and as they were conversing with each other with peaceful words, as it seemed, suddenly changing his look and altering his style of speech he began to upbraid him for his desertion, because he had accused him to the King of England and had lowered his position to his loss. When Comyn spoke peacefully and exculpated himself, Brus refused to listen to his discourse; but, as he had plotted, he gave him a kick and struck him with his sword, and went away back again. But his men pursued him at once and cast him forward on the pavement of the altar, leaving him for dead. One of his soldiers, however, the Lord Robert Comyn, his uncle, ran to his aid; but Christopher de Sethon, who had married the sister of the Lord Robert de Brus, ran up to him and struck on the head with his sword, and he died. The Lord Robert de Brus went out, and seeing the Lord John's fine steed, he mounted it, and his men mounted with him. They set out for the castle and seized it. And when what had been done was noised abroad the Scots ran to him, and the justiciaries, fearing for themselves, shut the doors of the court in which they were sitting with the few Englishmen who were with them. When he heard this he ordered fire to be brought unless they gave them up at once. But they surrendered, de-

manding their lives and a safe departure from the country. This he granted them. When this had been done, certain ill-disposed ones told him that the Lord John Comyn was still alive, for the friars had carried him within the vestibule of the altar, in order to administer to him medical treatment and that he might confess his sins. When he had confessed them, and was truly penitent, by the command of the tyrant he was dragged out of the vestibule and killed on the steps of the greater altar, so that his blood touched the table of the altar, and even the altar itself."

NOTE.—Walter is wrong in calling Bruce the 5th son of the claimant of the throne. He was his grandson.—E. J. C.

NOTE.—There are eight MSS. existing of this very valuable history. The best is in the College of Arms, London; four are in the British Museum, two at Cambridge, and one at Oxford. In all of them the name of the author is given as Walter of Hemingburgh. He is so called by Leland, but Bale calls him Hemingford, and his mistake has been generally followed since. Tanner and Hearne were aware of Bale's error. The MS. in the College of Arms has been edited by Hans Claude Hamilton at the cost of the College. Walter Hemingburgh was a canon of the Priory of Gisborough, in the East Riding of York. He was employed by Edward I. to visit many of the priories in Scotland to consult records. Being a friar himself he would be likely to receive an account from the Dumfries friars of an event that horrified the religious world and drew down the reprobation of the Pope. It must be remembered that the year began on the 25th March then, and so what Walter calls 10th February, 1305, was really what we call 1306. The 1st of January was adopted as the commencement of the year by Scotland in 1600, but by England not till 1752.

E. J. C.

II.—THE WEATHER OF 1902. By Rev. W. ANDSON.

The highest reading of the year was recorded on the 31st January, during the prevalence of a northerly type of weather, and amounted to 30.981 in., which, when reduced to 32 deg. of temperature and sea level, would give a reading of 31.018 in., and was followed by a reading almost equally high on the 1st

Report of Meteorological Observations taken at Dumfries during the year 1902.

Lat., 55° 4' N.; Long., 3° 36' W.; Elevation above sea level, 60 feet; Distance from the sea, 9 miles.

1902.	BAROMETER.				S.-R. THERMOMETER.				RAINFALL.				HYGROMETER.				
	Highest in Month.	Lowest in Month.	Monthly Range.	Mean Pressure of Month.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean Maximum.	Mean Minimum.	Mean temperature of Month.	Hours.	Amount for Month.	Days on which it fell.	Mean Dry Bulb.	Mean Wet Bulb.	Dew Point.	Relative Humidity. Sat. = 100.
Jan.	30.981	28.921	2.069	30.034	51.5	20.5	31.	43.5	34.9	39.2	0.57	2.16	19	42.3	40.2	37.5	84
Feb.	30.924	29.187	1.737	29.853	51.5	6.	45.5	40.2	27.7	34.	0.50	2.25	12	36.7	35.2	33.4	88
Mar.	30.195	29.000	1.195	29.717	60.5	27.	33.5	50.5	37.5	43.8	0.27	2.09	23	42.8	40.8	38.6	85
April	30.361	29.383	0.978	29.924	65.	29.	36.0	54.6	37.3	46.	0.72	2.18	12	45.2	41.7	37.6	75
May	30.409	29.211	1.198	29.951	66.5	32.	34.5	55.1	39.7	47.3	0.38	2.02	21	47.7	43.5	38.3	72
June	30.300	29.517	0.783	29.921	80.	38.5	47.5	64.4	48.3	56.3	0.26	1.68	12	56.	52.1	48.4	75
July	30.300	29.212	1.088	29.977	75.	36.	39.	54.4	50.8	57.6	0.69	2.55	16	56.4	52.6	49.1	76
Aug.	30.300	29.500	0.800	29.899	76.	40.	36.	65.8	47.	56.4	0.71	2.91	14	55.7	52.4	49.2	80
Sept.	30.541	28.980	1.561	29.993	73.	32.	41.	62.4	46.5	54.4	0.76	2.29	15	53.9	51.6	49.2	84
Oct.	30.424	28.874	1.550	29.943	61.	30.6	30.4	65.1	42.5	48.4	0.51	2.64	18	48.	45.8	43.4	84
Nov.	30.429	28.974	1.455	29.811	58.	25.	33.	49.	33.9	43.9	0.78	3.59	19	43.4	41.8	39.8	86
Dec.	30.560	28.495	2.065	29.938	52.5	17.5	35.	44.1	36.3	40.2	1.03	4.14	17	41.5	39.7	37.5	85
Year..	30.981	28.195	2.486	29.913	86.	6.	80.	54.5	40.6	46.3	1.03	30.50	198	46.4	44.6	42.5	82

WIND—

Days ...	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Var. or Calm.
9	39	56	43 $\frac{1}{2}$	29	88	56	37	6 $\frac{1}{2}$	

February of 30.924 in. Such very high readings are extremely rare in our climate, occurring only once in a number of years. Since 1887 there has been only one other record of a reading above 31 in., viz., in January, 1896. The lowest reading of the year was 28.495 in. on the 29th December, which also was exceptionally low, being the lowest for a period of nearly three years—since the 19th February, 1900, when it was 28.300 in. This gives a very wide annual range of barometrical pressure, being no less than 2.468 in. The weather of 1902, as a whole, was of a changeable and unsettled character. Even during the summer there was no continuance of fine weather such as we are often favoured with, but for the most part cold and showery days, although with few heavy rainfalls. The mean pressure for the year was 29.913 in., which is somewhat under average. It may be noticed as a remarkable circumstance that there was only one month in which the mean pressure was up to 30 inches, and that was January. In the previous year there were six, viz., February, May, June, July, August, and September. There were few severe storms, but once in January, and on several occasions in the last four months of the year, the barometer fell below 29 inches, and on each of these the weather was more or less stormy. Strong gales were experienced on the 18th and 19th March, in the beginning of September, in the early part of October, in the first half of November, and in the middle and end of December. The most notable of these were those which occurred in September and December. On the former date, viz., on September 3rd, there was a sudden fall of the barometer from 29.637 in. in the previous evening to 28.981 in. in the forenoon of the 3rd. This was accompanied by a severe gale from south and south-west, and by a heavy rainfall, amounting to 1.16 in. for the two days. The result was that the river was flooded, and an abnormally high spring tide occurring at the same time, the Dock Park and Whitesands were covered with water to an unusual extent. But what was more extraordinary than this, the tidal waters, forced up by the strength of the gale, rose so high as to surmount the caul or weir, and to raise the river at the New Bridge one foot higher than it would have been raised by the rainfall alone. Great damage was done to farms along the seaboard of the Solway shore, and on both sides of the estuary of the Nith, many farm fields having

been flooded with sea water to the depth of six or seven feet, with serious loss both to crops and stock, while numbers of trees were blown down and no small damage done to buildings. In the middle of December there was a repetition of the south-westerly storm, with an extraordinary heavy rainfall, the heaviest of the year—the concurrence of which with a very high spring tide, as in September, occasioned heavy flooding of the river banks and adjoining fields. The amount of rain that fell on the 14th and 15th was about two inches, and the result, as evidenced by the guage on the New Bridge, was to give the river a mean depth of twelve feet, a depth which, as far as my observation goes, it has never exceeded.

Temperature in shade (four feet above grass).—On the whole there was a considerable deficiency both of sunshine and heat during 1902. The absolute maximum, or highest single day temperature of the year, was 86 deg., on the 27th of June. On the 25th and 28th of the same month readings of 83 deg. and 83.8 deg. were recorded. But these were the only days in the whole year on which the thermometer rose to or above 80 deg. The maximum in July was only 75 deg., and in August 76 deg. The absolute minimum for the year was 6 deg. on the 11th of February, and the annual range of temperature thus comes out at 80 deg. Although June had the highest single day temperature, the highest monthly mean was, as usual, in July, which had a mean of 57.6 deg., as compared with 56.3 deg. in June, and that of August also was slightly higher than that of June, although only by one-tenth of a degree. It must be observed, however, that the mean temperature of all these summer months was decidedly below average—June by 1.6 deg., July by about 2 deg., and August by a little more than 2 deg.—and when the mean maximum temperatures are compared the deficiency comes out as much more considerable. Thus the mean maximum temperature for June, on an average of fifteen years, is 67.4 deg., and last year it was only 64.4 deg., which is three degrees less; the mean maximum for July is 68.2 deg., last year it was 64.4 deg., which is nearly four degrees less; August is 67 deg., last year it was 64.4 deg., from two to three degrees less. This means that there was a more than usual deficiency of sunshine and summer warmth during these months. The coldest month of the year was February, which

had both the absolute minimum of the year and the lowest monthly mean. The average mean temperature for February is 38.1 deg., last year it was only 34 deg., and the average mean minimum temperature for February is 32.5; last year it was only 27.7. The months in which the mean temperature was above average were: March, by 2.8 deg.; October, by 2.6 deg.; November, by 0.8 deg.; and December, by 1.6 deg.—sum of excesses, 7.8 deg. The months in which it was under average were:—January, 0.7 deg.; February, 4.1 deg.; May, 4.3 deg.; June, 1.6 deg.; July, 1.8 deg.; August, 2.1 deg.; September, 0.4 deg.—sum of deficiencies, 15 deg. Hence we may expect to find the mean annual temperature to be not up to average, but decidedly below it. The mean annual temperature during the last fifteen years has ranged from 46 deg. in 1892 to 49.5 deg. in 1898. In 1902 it has only reached 46.3 deg., which is the lowest of the 15 except that of 1892, when it was 46 deg. The average annual temperature is 47.7 deg. The month of April was not mentioned because it was exactly average. It was not an unfavourable month for the season, but the month of May, on which so much depends, was peculiarly unfavourable, with a prevalence of cold northerly and easterly winds and a low temperature, fully 4 deg. below the mean. The number of days or nights in which the temperature fell to or below 32 deg. was in January 13, with an aggregate of 83.2 deg. of frost; in February 14, with an aggregate of 171 deg.; in March 5, with an aggregate of 10.1 deg.; in April 5, with an aggregate of 4.9 deg.; in May 3, with an aggregate of 2.3 deg.; October 1, with an aggregate of 1.4 deg.; in November 5, with 13.2 deg.; and December 9, with an aggregate of 50.3 deg.; being for the whole year, 55 nights, with an aggregate of 336.5 deg. of frost.

Rainfall.—The number of days on which 0.01 in. or more of rain or snow fell during the past year was 198—rain, 191; snow, 7. The heaviest rainfall in 24 hours was registered on the 14th December, when it amounted to 1.03 in., and this was the only day on which it reached or exceeded one inch. The next heaviest was on the following day, when it was 0.95 in. The year, however, was singularly free from heavy rainfalls, and the total amount for the year was very much short of the average, being only 30.50 in., as compared with an average of

37.44 in. This deficiency was not due to any protracted period of drought, of which, in fact, there was less than usual, but to a deficiency in quantity, spread over the whole year. There were only two periods to which the term of drought or partial drought could be applied, one in February, when for 12 successive days only 0.02 in. of rain fell, and the other between the 24th September and the 8th October, when for 14 days there was only a slight fall of 0.02 in. The latter period proved extremely favourable to the ingathering of the crops in a somewhat late harvest. The true explanation of the small rainfall of 1902 is to be found in the fact that although the number of days on which it fell was very little short of the average, 198, as compared with about 200, the quantity was deficient, that is, below average, in every month except one. In April there was a slight excess, but only to the amount of two-hundredths of an inch. In all the other months, from January till December, there was a deficiency, in some more and in others less, but so much that the accumulated deficiency in the end of the year amounted to almost seven inches. This was the driest year of the sixteen during which observations have been taken at this station. The next driest was in 1887, when it was 30.99 in., and the next to that 32.39 in. in 1893. The average, as before mentioned, is about 37 inches, but the amount has been as much as 47 in., which was the quantity recorded in 1900. In consequence of the deficiency of the past year there has been a scarcity of water, as is well known, in many places. The driest month was June, with a record of 1.68 in., the wettest December, which had a little over four inches.

Hygrometer.—The mean of the readings of the dry bulb thermometer for the year was 46.4 deg., and it is worthy of note that this annual mean, which is calculated from the 9 a.m. and the 9 p.m. readings of every day, corresponds almost exactly with the mean annual temperature as calculated from the daily maxima and minima. This coincidence has been noticed in previous reports, and it shows that the mean temperature may be correctly ascertained by either of these methods. The mean of the wet bulb thermometer for the year was 44.6 deg.—dew point, 42.5 deg.; while the relative humidity for the year was 82 (saturation being equal to 160). This is rather less than the average, which is more frequently 83 or 84, and corre-

sponds with the deficiency of rainfall by which the year was marked.

Thunderstorms, etc.—During 1902 thunderstorms were rare, and hail was equally uncommon, but lunar halos were not unfrequently observed, especially in the later months of the year. With regard to the wind observations, the south-westerly, as usual, blew on the greatest number of days, viz., 88; the next in point of frequency were due west and east, which prevailed each on 56 days; the next was the south-east, with $43\frac{1}{2}$ days; and the north-east and the north-west, which were nearly equal, the north-east having 39 days, and the north-west 37; due south had 29, and due north 9, and $6\frac{1}{2}$ were variable.

WEATHER AND HEALTH.

Dr Maxwell Ross proposed a vote of thanks to Mr Andson for his valuable paper. The weather of the year had been exceptional, but it had not had very much effect on the health of the community, except that it might be that it had rather improved the health than otherwise. He found that of the eleven areas which he served as medical officer of health and the statistics for which he had to collect, there were only two whose death-rates were higher than their averages for a considerable number of years. In not one of the county districts, where he had the averages for something like twenty-one years, was there any death-rate above its average. The county death-rate was one of the lowest we had had during the past twenty years; he did not know that there was a lower. The zymotic death-rate was certainly the lowest. And one very curious fact had been that the death-rate from diarrhoea and enteric fever or typhoid, diseases which were associated with the warmer period of the year, had been lower than they ever were before in his experience in Dumfriesshire. He was rather interested in working out from the averages what one might call the "expected deaths" for each month of the year. He got this very curious result. In January, which was a favourable month but followed a very stormy December, the deaths were actually 28 less than the expected number. In February the actual deaths were 19 less than the expected deaths; in March, 8 less; in April, 36 less. Then they had a series of months, four following each other, in which the actual deaths exceeded the expected deaths.

In May, a cold month, in which there was a prevalence of north and easterly winds and a temperature below the average, 94 deaths occurred, against 87 that were expected. That was due largely to consumption and such diseases carrying off patients. It was an inclement month, and naturally those whose constitutions were weakened by phthisis were more liable to be cut off. The death-rate from respiratory diseases was also high, although not the highest of the year; and deaths from nervous and malignant diseases were high. There were no deaths from zymotic diseases. In June the actual deaths were nine over the expected; in July they were seven over; in August, also seven over. Then we had a series of three months in which the actual deaths were again very much less than the expected number. In September 49 deaths occurred, as against 67 expected; in October 62, as against 72; in November 70, as against 71. In December again the actual deaths were higher than the expected—96, as against 79. In that month we had also a high death-rate from consumption, respiratory diseases, and influenza; and also from developmental causes: these were deaths which occurred at the extremes of life, from premature birth and deaths in old age. Altogether, although it had been a very odd year so far as weather was concerned, and although there had been a great deficiency of sunshine, it had not had an unfavourable effect on the death-rate. Part of the lowered death-rate was, of course, due to other causes, but the weather was a factor in causing a higher or lower rate of mortality. While it would be heresy on his part to suggest that our improved sanitation had no effect, still he thought we should be cautious in attributing the improved death-rate of last year entirely to that cause. He thought the weather had had a very considerable influence. And he said that because he had seen in the newspapers several people claiming an improved death-rate as an evidence of how well their sanitation was carried out. Now a wise man would wait a little before he boasted of a low death-rate as a result of improved sanitation in the place where he lived, because the result of that improvement would only become apparent after a period of years. Sir Emilius Laurie had been kind enough to send him a record of the rainfall at Maxwelton House for the last year; and Mr Lyall sent him records taken at the school-house in Ewes and at Ewes Burnfoot. At Maxwelton House the

fall for 1902 was 39.70 inches; the average for fifteen years, 45.90. At Ewes Schoolhouse the fall was the lowest of any recorded year, being 36.5 inches. The next lowest record was in 1889, when it was something like 38 inches. Sir Emilius Laurie contrasted the rainfall at Maxwelton House with that at Folkestone and Hatfield, which he got. At Folkestone the fall for 1902 was 21.99 inches; and at Hatfield, 18.03. In January of this year the fall at Maxwelton House was 8.49 inches; at Folkestone, 2.29.

III.—THE SPARROW HAWK (*ACCIPITER NISUS Linn*). By Mr
ROBERT SERVICE.

Amongst our British diurnal raptorial birds we have vultures, eagles, falcons, hawks, kites, buzzards, and harriers—groups of birds distinguished from each other by well marked characters and habits.

Our sparrow hawk is the type and representative of the hawks. It is not a falcon, and a falcon is never a hawk, although the transposition constantly occurs in the conversation and ideas of sportsmen of all degrees.

The hawks are distinguished from the falcons, mainly (although there are several other good distinctions), by the possession of short wings. This strong structural character affects their mode of life, and in consequence we do not find in their case the high powers of flight, and the meteoric rush with which the peregrine, for instance, dashes upon its prey.

Throughout our area by far the most familiar raptorial bird is the sparrow hawk. On the moorlands the kestrel may outnumber it, and the merlin may claim our attention as often; while in districts where woods and plantations abound, the brown owl and the long-eared owl may be more abundant, still our subject is the species, amongst the birds of prey, that comes oftenest under ordinary and general observation.

During the months when the autumn migration is going on the sparrow hawk is most in evidence, and it is during that period of very regular and evenly distributed abundance. The word "abundant" is in this connection a comparative term. From the very nature of the case, birds of prey of any British species in ordinary circumstances can never be more than widely

scattered points, or in the breeding season small and very isolated family parties.

During winter also, but becoming scarcer as the season advances, sparrow hawks are not at all uncommon. With the spring migration a sudden accession of numbers takes place, most of the birds passing onwards, northwards, and eastwards. As a summer resident the sparrow hawk has become greatly reduced in numbers, and although a nest is still no rarity it is not nearly so common as formerly. There can be little question that since the modern form of game preserving set in, now some seventy or eighty years ago, the resident or breeding stock of sparrow hawks has been destroyed outright at least half a dozen times over. The places or beats of the birds thus killed are filled again each season by arrivals from other parts of the western range of the species. This process, however, shows signs of coming to an end, as it cannot go on for ever; and, like other members of our native fauna, subjected to like cruel treatment, the sparrow hawk is bound to be finally banished from the land.

In boldness there is none to surpass it, for while the kestrel flies off and keeps at a discreet distance, the sparrow hawk, more especially the male, will dash past within a yard or two, and seize a bird almost within one's reach, or chase its intended victim right to one's feet, as has happened more than once in my own experience.

The female rarely ever takes a bird larger than a blackbird or a thrush, and only seldom does she take any except the small warblers or finches. A robin is a favourite prey, and another bird that is often taken is the greenfinch. These birds are fond of sitting engaged in meditation on conspicuous points of shrubs and hedges, clear of the thicker growth of branches and twigs, and so when this hawk glides suddenly along he falls upon the unsuspecting bird in an instant, and striking out with whichever foot is nearest as he passes, without swerving or pausing in flight. Should he miss, as very seldom happens, the robin or greenfinch will be off into the nearest thicket uttering a series of terrified squeals, the hawk meanwhile wheeling in a moment and pursuing it through every twist and turn with marvellous speed and dexterity. Hunting along the hedgerows is a favourite mode of seeking its food. Gliding along the top, now dipping down to one side, and then to the other, whisking through every

gap or gateway, skimming along the surface of the adjacent fields, it dashes along, and not seldom pounces upon some unwary small bird, strikes it dead with one movement, and bears it off. Scarcely any small bird is exempt from capture if it is out in the open, and cannot reach the shelter of bush or hedge in time. Notwithstanding the trivial name of this hawk, the ordinary house sparrows are, perhaps, less frequently caught than most other small birds, whereas the kestrel takes them quite commonly. Another way in which the male sparrow hawk is often successful in catching a bird is to glide through some opening in a large, thick tree, and snap up a victim on the other side.

The female, as a rule, seeks a somewhat different class of prey. Being fully twice as large and proportionately more powerful than the male, she is able to take much bigger birds than her rather diminutive partner. Her habits are also a little modified to suit. While never declining to snatch a small bird should the opportunity be tempting, the female likes best to catch something more bulky. The great natural enemy of the wood pigeon in this country is the female sparrow hawk. I well remember hiding once to shoot wood pigeons, having set out a stuffed specimen as a decoy. While patiently waiting there was a rush of wings, and a big female sparrow hawk knocked my stuffed pigeon several yards away, but without making her clutch good. Wheeling round with great rapidity she came at the stuffed bird again, but without hitting out a second time, she evidently, from her very palpable look of astonishment, as she hovered for a second or two, decided there was something wrong, and made her way at once. I was so interested in the whole sudden incident that I never thought of firing at the hawk, and it flew off unharmed.

The great flocks of lapwings that gather in autumn constantly furnish food to the sparrow hawks, which are never very far away when lapwings are numerous.

Both sexes of this bird have one particular trait that has incurred to them the universal hate and enmity of gamekeepers. Once they ascertain that pheasant chicks are to be had by a sudden raid across the rearing field, they will be daily visitors, and will only cease the practice when shot. And they are very difficult to shoot in such a case. Whether they know that danger may be doubted, but it is a fact, that when stealing pheasant

chicks, they are specially wary and never seem to come the same road twice. I have seen the keepers watch for days before they got a chance of hitting a hawk that had been visiting the coops.

In the autumn and early winter months when it is the custom of birds to gather round the stackyards in large numbers, the sparrow hawk will almost certainly pay the assemblage a visit once a day. The evening, just about sundown, is a favourite time of choice. Picking a scanty sustenance round the stacks of grain, the birds are all unsuspecting. Some chaffinch will catch a glimpse of the enemy gliding onwards like a shadow, and he utters his warning "chink." Thereupon the birds will disperse instantaneously into the nearest shelter, but one of their number is missing. The hawk is away with his supper as silently and swiftly as he came. A minute or two of silence amongst the shrinking birds in the thorn bushes, and then one after another they forget their alarms and resume their search for food as if nothing had happened.

But birds are not at all the only sustenance of the sparrow hawk. They take rats and water voles, mice and field voles at times; now and again they will descend to frogs, and occasionally they will catch young rabbits. Once I put a female sparrow hawk off a partly devoured adder.

The sparrow hawk's dining table is usually on some little mound or elevation; sometimes the top of a large stone or the flat surface of a dyke or wall, perhaps the flat stump of a tree or a broad surfaced horizontal branch. Here the feathers plucked from its latest victim are scattered around. It is often of interest to identify the species on which they have been feeding, and this can be easily done. The feathers are not eaten except by chance. Like all other birds of prey, the sparrow hawk ejects the indigestible part of its food, such as bones, feathers, fur, etc., in little pellets.

The predilections of this species for darting through holes in hedges and along narrow spaces, such as lanes and woodland gates, is, I believe, the reason why the sparrow hawk is so often killed by dashing itself against windows. I never knew any but this species immolate itself in this way. In flying along in its usual sneaking fashion the bird sees the window reflecting a close fringe of shrubs with what it imagines is a nice clear space in the centre for darting through. So on it comes into a

headlong dash, but, alas, it is to knock its brains out against the supposed gap in the shrubs.

Sparrow hawks pair for life—the very brief life that game preservers allow them. Their courtship is a curious one. It is reminiscent of an old adage still sometimes heard amongst country people—“Nippin’ and scartin’ are Scots folks’ wooin’.” To watch a pair of hawks engaged in wooing is to see a couple of birds that the casual observer might well think were fighting. Dashing at and buffeting each other, uttering short cries, while wheeling about in the air, their demeanour is suggestive of anything rather than love. By and by they settle down in some tree, where, after a good deal of preliminary sparring the female will ultimately condescend to allow her little lover to stroke her feathers with his bill—a duty he performs very gingerly and warily, and with one eye always watching for a sudden assault from her sharp talons.

In April a spot is chosen for the nest, a favourite site being some 15 to 18 feet up an old spruce tree, and close to the trunk. They always build their own nest, but now and then will use an old squirrel’s drey or a wood pigeon’s old nest for a foundation. By the middle of May the full clutch of eggs is laid upon the shallow saucer-shaped hollow over the twigs that form the nest. The eggs vary to a great extent from bluish-green, almost spotless specimens, to others that are quite clouded over with reddish brown of several shades.

The young are attended to with great assiduity, and at this period the parents are most relentless in their pursuit of prey of all kinds. The small birds suffer most at this time, and a visit to a sparrow hawk’s eyrie at the time the young have begun to scramble out of their nest along the branches is most instructive. All the food lying about the nest will be found to be mostly warblers, and no game birds at all. As happens with all the birds of prey, the young when able to take care of themselves are driven off their parents’ beat and are never allowed to return to their birthplace.

In the days when falconry was the prevailing sport this species was held in a higher reputation than it has any hope of enjoying amongst sportsmen of the present day. The female, under the laws of falconry, which assigned different kinds to different ranks, was entitled to be carried by a priest, while the

male, then known as the musket, could be carried by the holy water clerk. Shakespearian students will recollect how, in "The Merry Wives of Windsor," Mrs Ford addresses Falstaff's page with, "How now, my Eyas Muskett?"—an Eyas Muskett being a young male sparrow hawk taken from the nest. There is no doubt that falconry, having for generations almost ceased to exist in this country, has now began again to increase in favour. In its revival lies a great hope that the unwise destruction of our native raptorial birds may cease. I do not wish for a moment to deny that the present species is rapacious and destructive in the extreme. But are there no points to be put to the credit side of the ledger? No other species so effectively keeps the small seed-eating birds in check, and that most destructive pest to the farmers—wood pigeons—could be greatly reduced if there were more sparrow hawks. And a prime consideration is that no estate enjoys a proper amenity, and its full share of natural beauty without a fair head of all the birds of prey. The damage done to game in consequence would be comparatively trifling. One pair of sparrow hawks in the course of a year on an average estate would not cause as much injury to game as would the efforts of one bad shot on a big shooting day.

A few words about the plumage of this species will end this narrative. The young birds are at first covered with white down, which gives place to a general sepia brown feathering above, all the feathers margined with rufous. The under surface of body is white, the throat narrowly streaked with black, the foreneck and chest with broad rufous streaks, flanks and thighs barred with dark brown.

The young plumage remains for one or two years, and these birds sometimes breed while still in miniature feathers. The first adult dress with bars underneath seems to be gained by the breaking up of the paltern on the feather, rather than by a complete moult. The broad centre of pale rufous alters in shape and breaks off into bars, and the heart-shaped spot on the terminal part of the feather being absorbed, the bird is then in fully adult plumage. With old age the birds become more and more rufous.

20th March, 1903.

Chairman—Mr J. BARBOUR, Vice-President.

SCOTTISH LIFE IN THE 17TH CENTURY: ILLUSTRATED SPECIALLY
FROM DUMFRIESSHIRE AND GALLOWAY.

By Mr W. DICKIE.

I propose to make Dumfries the central point for a cursory survey of the conditions of life in Scotland in the seventeenth century. It is desirable as a preliminary to have some idea of the appearance and extent of the town at that period. It is not possible to construct a complete or perfectly reliable mental picture, but it may be done with approximate accuracy. The town then was in its main outlines wonderfully like what we may call the old town of to-day. It consisted of the High Street; part of Friars' Vennel; the Kirkgate; East Barnraws, somewhere in the neighbourhood of the present Loreburn Street, and having as one of its boundaries the Loreburn, which figures in the motto of the burgh; a small street between these two called the Midraw, extending from "the Rattan Raw," our present Chapel Street, on the one hand, to what is now Queensberry Square on the other; the Lochmabengate, now known as English Street; and west of the High Street, a street called the West Barnraws. And off the various streets were, as now, numerous closes. Then there was, of course, "the brig-en'," which has developed into Maxwelltown; and on the Troqueer Road there was a village known as "the Toun of Troqueer." At the top of the High Street, on the site of Greyfriars' Church, stood the castle, or rather battlemented town house of the Lord Maxwells, which had been in rather a dilapidated condition since 1570, when the town was burned by an English force, under the Earl of Sussex and Lord Scrope. The more ancient castle of Dumfries, in the neighbourhood of Castledykes, had ceased to be a place of strength. The New Wark, a two storey building with some slight pertensions to fortification, and commanding extensive vaults for protection of the valuables of the citizens in times of danger, stood on the south side of what is now Queensberry Square; and in the square were also the flesh market and the slaughter-house. An extensive improvement was carried out about 1770, when a new flesh-market was built and King Street, or "the Wide Entry," was opened up. At the earlier period to which our notes refer, part of the Greyfriars' Monastery, which lay between Castle Street and St David Street, was still standing; but it had been unoccupied for about a century, the Reformation having suppressed it and other conventual establishments. The Midsteeple had not been built. But on the High

Street, a little south of the shop of Messrs Kennedy & Co., seedsmen, stood the old Tolbooth and Council Chambers, which were erected in 1627. The Meal Market was also in High Street, on the space, I suppose, now occupied in the summer season by the gardeners' stands, and the Fish Cross was near it. A little above the site of the Midsteeple, on the spot occupied by a jeweller's shop, was a one-storey building, with the Town Cross on its flat roof. There was only one place of public worship in the town, St Michael's Church. It was not, of course, the present edifice; that dates from about the middle of the 18th century; and it appears to have been "a church without a steeple." It had been the Roman Catholic Church of the town, and after the Reformation it was occupied by a Protestant congregation. There had been two other pre-Reformation churches in the town—one, the Church of Our Lady, near where is now the office of the Bank of Scotland in Irish Street; the other, the Church of St Thomas, the site of which I have seen variously given as between St Michael Street and the river, and as in High Street, near the Coffee House. There was also, on the eminence now crowned by St Mary's Church, a chapel erected by the sister of Robert Bruce in memory of her husband, Sir Christopher Seton, who had suffered death on the spot, at the hands of the English troops; but this little church was never, I fancy, used to any considerable extent as a place of public worship, and since the Reformation both it and the churches of St Thomas and Our Lady had been closed. None of the public buildings was of imposing appearance, if we except the castle, and it was in a partly ruinous state.

Regarding the dwelling-houses the Lord Provost of Glasgow and one of the city bailies, who passed through the town in 1688, have left this record: That they were either composed of mud walls strengthened by upright wooden posts, or were built of stone laid in clay and thatched with straw or heather. The shops, say the same observers, were small and ill-lighted, with naked walls, seldom plastered, and often not even floored or paved. Of the dwelling-house accommodation of the rural population the same visitors give us the following picture:—"Many of the farm houses were built in part and some altogether of turf, or of mud, plastered on stakes and basket work. The window was composed of a few panes of glass and two boards that opened like shutters for the admission of air. On the small farms part of the dwelling-house was occupied by the cattle, which generally entered by the same door with the family—the one turning by the trance-door to the kitchen, the other the contrary way to the byre or stable. The people in the kitchen could see but to the byre and the cattle saw ben to the kitchen. The houses of the labourers consisted of a single unceiled apartment, with clay floor, unclean and full of holes." The

chroniclers do not mention, what we know, however, to have been the fact, that the business of many classes of tradesmen was conducted in little wooden booths which were set out on the High Street for display of their wares on market days. Many of the houses, I fancy, would be entirely of wood, for we know that on several occasions, one of them being about 1598, the town suffered severely from fire; but we have an old dwelling-house in the High Street dates on stones going back to 1604.* The old Turnpike House, built in the seventeenth century by Sharpe of Hoddam, the sheriff clerk of Dumfries, and occupied during his last years by the notorious Grierson of Lagg, was known by way of distinction as "Hoddam's stone house." The proprietor of Hoddam owned also the adjoining house, which was of wood, and on the site of which the building now known as the Commercial Hotel was erected some time before the visit of Prince Charlie. Regarding the method of building and the materials employed, we get a local glimpse in Mr Colville's "Byeways of History." "At Canonbie, 1769, the owner prepares the materials—clay mixed with straw—summons his neighbours for a day's darg (work) at daubing, who come with victuals at their own cost, and setting cheerfully to work complete the house before nightfall. At Dornock, Annan, 1792, all the houses in the village, save the manse and two others, were of mud and thatch. I have easily pushed my walking stick into the front wall of one of these houses. They are still common at Gretna Green." So says Mr Colville; and the statement agrees with that in a well-known letter written by Mr Maxwell of Munches, that "there was almost no lime used for building in Dumfries, except a little shell-lime made of cockle-shells, burned at Colvend," and that, "in 1740, when Provost Bell built his house, the under storey was built with clay, and the upper storeys with lime brought from Whitehaven in dryware casks." The Old Bridge was the only means of crossing the Nith, except by fords, and the town was deprived even of it for some time. Great part of the bridge was carried away by a spate in the year 1620; and in the absence of a Devorgilla or a Miss M'Kie, the burgesses had at their own charges to rebuild it. An Act of Parliament of the period sets forth that this was a work so herculean as to be "maist incredible

* On the skew-stone of a three-storey building in the *Standard Close*, High Street, date and initials are carved as follows:—

1604
P T
M A

In the front wall of the Hole-in-the-Wa' Inn, High Street, which is in the line of the old "Mid Raw," is a marriage stone bearing the date 1620. The small house at the Maxwelltown end of the Old Bridge, on the south side, and partly resting upon it, was built in or very shortly before 1660.

to have been performit by thaim without His Majesty's help"—a help, by the way, which had been invoked and refused—and by way of reward the formerly existing right of the magistrates to levy bridge dues was renewed and confirmed.

The caul at this time was above the bridge, instead of below it; and the Town Mills were on the Dumfries side of the water. The change to the Maxwelltown site was made after the destruction of the old mills by fire in 1780. The town, like most towns of any importance at that time, was enclosed by a wall for purposes of defence, except on those sides where it was protected by the river. The wall started at about the Moat House, was carried in a line to Sir Christopher's Chapel, then made a curve towards St Michael's Church; and terminated at the river a little below Swan's Vennel. Part of it was built of stone to a height of 8 feet; other portions consisted of an earthen bank, strengthened by stake-work and protected by a deep ditch on the outer side. There were three gates. One was the South, or Nether Port, near St Michael's; another the North Gate, at Townhead; the third, the East Gate, near the site of St Mary's Church. There was also a gate, or "port," on the bridge; and there was an inner gate, or "port," half-way up Friars' Vennel: hence the name "Port of the Vennel."

Having said so much of the town, let us turn to the inhabitants and see how they fared, using the word in its literal sense. Some of the dishes which we have come to regard as necessaries of life were absent from their tables. Potatoes were not yet cultivated in this country, and tea was only beginning to be known as an expensive luxury of the rich, the price being as high as 30s a pound, and money being very scarce. Butcher meat was little known at the tables of the common people. Even a Protestant Parliament, which must have been indoctrinated with vegetarian views, passed a law forbidding the eating of flesh either on Fridays or Wednesdays, because of the great scaith said to be occasioned to the realm by its too great consumption; and this prohibition was repeated, I know, in the Acts of the Town Council of Kirkcudbright, and I suppose in those of other burghs. But whether the danger apprehended was to the health of the king's subjects or to the wealth of his realm, this sumptuary law could not be required to restrain the over-indulgence of the peasant or tradesmen classes. A well-informed writer on the condition of Galloway about this period (the Rev. Mr Mackenzie, author of the "History of Galloway") says (*Hist. Gal.* ii., 335-6):—"The food of the common people consisted of the meanest and coarsest materials, besides being dirty and ill-cooked. Those lived comfortably who could obtain a sufficient supply of brose, porridge, and sowens, perhaps made of meagre grain, dried in pots, and ground

in querns, with greens, or kail, occasionally boiled in salt and water. They seldom or never tasted animal food except the carcasses of such beasts as either died from stravation or disease; it was a rare thing to slaughter even an old ewe for winter provision. The common people had as yet acquired no luxuries except tobacco, though the higher classes possessed a few. Their chief drink was fermented whey, which they kept in barrels sometimes for a whole year, or a kind of ale, which is said to have been still manufactured from heather."

To recur to our magisterial visitors from the city of St Mungo, they inform us that: "In the county of Dumfries there was not so much victual produced as was necessary for supplying the inhabitants, and the chief part of what was required for the purpose was brought from the sand-beds of Esk on tumbling cars on the Wednesdays to Dumfries." One of the citizens informed the Lord Provost that when the waters were high by reason of spates, there being no bridges, so that these cars could not come with the meal, he had seen the tradesmen's wives crying because there was none to be got. The same statement occurs in the letter of Mr Maxwell of Munches above referred to. They mention, however, as a compensation for the general poverty of the fare to be got at hostelries on the way, that they were able to procure an abundant supply of claret and French brandy at 18d a bottle. Scotland had at that time a considerable trade with the continent, and large quantities of wine were imported. Dumfries, however, fell behind in this commerce because of the difficult navigation of its river. Only some three small boats seem to have traded from the Nith to France, Norway, and Sweden; France supplying wine and brandy, Norway wood, and Sweden iron. Kirkcudbright had most of the sea-borne traffic of these parts.

In the passages which I have quoted nothing is said about what has come to be regarded as the national drink—whisky. But we know that it was manufactured in Scotland at that time, not only for home consumpt but for exportation. An Act of Parliament of date 1661 imposed an export duty of two ounces of silver on every barrel containing ten gallons of aqua vitæ, and an excise duty of two merks Scots per boll malt used in its manufacture for home consumption. All aqua vitæ or strong waters imported from other countries was to bear a customs duty of 6s per pint; and an Act of 1663 expressly prohibited its importation. And the disciplinary records of the Kirk Sessions shew that it was a drink in common use in this district, for in the frequent proceedings following upon drunken brawls we have reference, in the Session records of Dumfries in the seventeenth century, to indulgence in "strong waters." I have no doubt that among both the Dumfriesshire and Galloway hills there were

many stills, the produce of which found its way into the cottage homes of which Mr Mackenzie presents a rather gloomy picture.

It is interesting to note the light which is thrown on the Scottish commerce of the period by the Act of Parliament to which I have just referred—the 17th of the first Scottish Parliament of Charles II. That statute prescribes export duties on herring, salmon (regarding the efficient packing of which stringent regulations were laid down by the same Parliament), butter—the Scotch then had not, apparently to send to Denmark for supplies—beef, eggs, oats, wheat, flour, cheese, horses, cattle, and various other products of the field and farm; and a very respectable catalogue of manufactures, including such things as sword blades, iron ordnance, horse shoes, pans of brass and iron, pewter work, linen cloth, plaiding, silk and worsted ribbons, sail canvas, saddles, shoes. In a list of skins liable to export duty it seems strange to a twentieth century reader to find that of the wolf. In the list the rabbit figures by its old Scotch name of the cunning; the martin by the name of the mertrick; the fox as the tod; the polecat as the fulmert. In the restrictive spirit of the times Parliament soon afterwards passed an Act to prohibit the export of skins, as they considered it hurtful to the interests of native furriers to send out the raw material for use by rival tradesmen in other countries.

We return from this digression to the diet of the people. The want of flesh meat would in sea-board districts be in large measure supplied by fish. And we have the testimony of a contemporary poet—for the graces of the muse were cultivated even in that disturbed time—to the picturesque variety of dishes that were available to a stout stomach. I quote from "The Blythesome Bridal," by Francis Sempill, a Renfrewshire bard, to whom is also attributed the song, "Maggie Lauder." He thus, with amusing and somewhat sarcastic amplitude of detail, catalogues the dishes at a rural wedding feast:—

Fy, let us a' to the bridal,
 For there will be liltin' there;
 For Jock's to be married to Maggie,
 The lass wi' the gowden hair.
 And there will be lang kail and porridge,
 And bannocks o' barley meal;
 And there will be good saut herring,
 To relish a cog of good ale.

And there will be fadges and brochan,
 With fouth of good gabbocks of skate,
 Powsowdy and drammock, and crowdy,
 And caller nowt-feet in a plate;
 And there will be partans and buckies,
 And whitings and speldings enew,
 With singed sheepheads and a haggis,
 And scadlips to sup till ye spew.

And there will be lappered milk kebbocks,
 And sowens and farls and baps,
 With swat and well-scraped paunches,
 And brandy in stoups and in caps;
 And there will be meal-kail and castocks,
 With skink to sup till ye rive.
 And roasts to roast on a brander
 Of flukes that were taken alive;

Scrap haddocks, wilks, dulse, and tangle,
 And a mill of good sneishing to pree;
 When weary with eating and drinking,
 We'll rise up and dance till we dee.
 Then fy, let us a' to the bridal,
 For there will be liting there;
 For Jock's to be married to Maggie,
 The lass wi' the gowden hair.

Fadges were large, flat loaves; brochan is oatmeal boiled to a consistency somewhat thicker than gruel; powsodie is sheep's-head broth; drammock is meal and water mixed in a raw state, what country people often call "beggar's porridge;" scadlips is thin broth; lappered milk kebbocks are, of course, sour milk cheese; swats mean new ale; skink may either refer to drink in general, or to a strong soup made of cow's hams; and dulse and tangle are names still familiar for edible kinds of sea-weed.

Ale was then a staple article of diet, and it was one of the curious duties of the Town Council to fix annually, at the close of harvest, the price at which it was to be sold during the year then ensuing. The meeting for this purpose was called the assize of ale. There was also an assize of bread, which fixed the charges that bakers were permitted to make; and sometimes the price of candles also was a subject of municipal regulation. The price of the bread and the ale depended, of course, on the abundance or scantiness of the harvest, and the records of that early period reveal to us, despite the hilarity of the songster of rural mirth, a community hovering painfully near the verge of starvation.

Agriculture throughout the country was of a very primitive kind, and this district, long disturbed as it was by border raids and clan feuds, had made but slow advance in the arts of peace. Our friends the magistrates of Glasgow in their progress from Dumfries to Carlingwark (now Castle-Douglas) found the country a wide tract of black moss, extending for miles on each side, overgrown with whins and broom, but utterly destitute both of enclosures and trees, a few isolated dwellings, a cottage or a farm house, alone indicating that the desolate-looking district was not wholly uninhabited. Little grain was grown but coarse, grey oats; and the harvest was often so late, on account of the dampness of the soil from want of draining, that it was no uncommon thing for the crop to be cut amid frost and snow, and

even then in an unripe condition. Ploughing was a laborious operation, performed with a ponderous wooden plough, drawn either by four horses or eight oxen, or by a mixed team. A district so circumstanced could have no surplus sustenance even in a good year, and a failure of the harvest meant literal famine. Foreign countries could not as now supply the deficiency, and in the absence of proper roads communication even with other parts of Scotland was beset with some of the difficulties of modern African exploration. It was not until 1664 that even a weekly postal service between Dumfries and Edinburgh was established. Pestilence often followed in the steps of famine. We have frequent references to "the pest" in Council minutes. One year, when it raged in Dumfries, the civic rulers of Kirkcudbright prohibited all communication with the town or even with the district east of the Urr, and required the householders—"all that raise reik" they are expressively termed—to take turns as an armed guard to see that the cordon was not broken. In 1623 the whole of Scotland suffered grievously from famine and plague, and it is computed that the town and parish of Dumfries lost a ninth part of their inhabitants. In 1665 the "pest" was raging in London, and to guard against contagion by the visits of the southerners or the introduction of English merchandise, the Town Council of Dumfries gave orders that twenty-four burgesses should keep watch and ward day and night.

So much for the food of the period. Let us now glance at the dress. In England the costume of both sexes, among the higher classes, underwent changes of fashion as frequent as they do in our own days, and even more striking. That of gentlemen in the time of Charles I. is considered the most picturesque in English history, its chief characteristic features being the high-crowned beaver hat with a plume of feathers, a close-fitting doublet with pointed lace collar, which gave to the costume the name of Vandyke, breeches reaching to the knee, tight-fitting stockings, and a cloak after the pattern of the Spanish mantua hung from one shoulder. The ladies during Charles's reign gave up the unsightly farthingale, a sixteenth century exaggeration of the crinoline of a more recent day, and adopted a simpler and much more elegant style of dress; but they gratified their love of display by enormous trains, which required in the case of ladies of fashion the attendance of several pages in order to bear them. But Scotland, exempt from the temptations to imitate a luxurious court, and with less of wealth at its command, seems to have escaped in large measure the fantastic changes of the time. Certainly they little affected the common people, with whose condition we are chiefly concerned. They, free from "luxury's contagion," preserved in the article of dress, as in more weighty matters, the rustic

simplicity of their lives. Tartan was going out of use as the common material of dress in the lowlands; but it was still preserved in the plaids of the men and in the "screens" of the women, the latter being a light shawl, which in the case of unmarried persons was made to serve the purpose of a head-covering. The men at the time of which I speak wore coats of waulked plaiding, made of a mixture of black and white wool in an undressed state, and the product, of course, of their own looms; their knee-breeches were of white plaiding; their head-dress was the Kilmarnock bonnet, of blue or black, only the lairds wearing hats; and their shoes were rudely made by shoemakers—cordwainers they were called—who exposed their wares on the street twice a week in the town, or who travelled from house to house in the country. Shirts were little worn, and they were made of coarse woollen. The gowns of the women were made of coarse plaiding or drugget; and home-made linen was used in the wardrobes of those who could afford it. Allan Ramsay belongs to a somewhat later date; but we may accept his picture of rural life in "The Gentle Shepherd" as fairly applicable to this period; and we have a glimpse of the prevailing style of dress in Jenny's description of Roger, her shepherd beau:—

"He kaims his hair indeed, and gangs richt snug,
 Wi' ribbon-knots at his blue bonnet lug,
 Whilk pensilie he wears a thought a-jee;
 And spreads his gartens diced beneath his knee;
 He faulds his o'erlay doon his breast wi' care;
 And few gang trigger to the kirk or fair."

For a glimpse of those of higher degree we are again indebted to the Lord Provost and his travelling companion. The laird of Munches, whom they went to visit, was wearing a broad blue bonnet, a long home-spun coat of blue colour, knee breeches of the same material, and rig and fur stockings. Lady Munches, as his wife was termed by the custom of the period, wore a close linen cap ornamented with a coloured ribbon, and a gown composed of lindsey-woolsey spun in the family and woven by the village weaver. But on state occasions, such as the Hogmanay festivities, which the city visitors witnessed, the dresses were expensive and even ostentatious. The clothes of gentlemen in full dress were fringed with gold and silver. The coats had very wide sleeves, with immense cuffs folding back nearly to the elbows, and were ornamented with a profusion of large gilded or gold buttons. The waistcoats descended nearly to the knees, and contained most capacious pockets. The breeches were short, and the knees and shoes sparkled with immense silver buttons. Elderly gentlemen wore large wigs, decorated with numerous rows of curls, and a large toupee in front, the whole surmounted with a magnificent cocked hat.

The younger male members of the family had adopted the fashion of powdered hair. When they went abroad these gentlemen carried a gold-headed cane in their hand, reaching to about a foot above their heads, and grasped by the middle. Swords were regarded as an indispensable article of fashionable costume. Ladies, when visiting or receiving company, wore silk gowns with gold or gilded buttons or fringes. These gowns were very long in the waist, with long flowing trains. High-heeled shoes and silver buckles were the fashion. The hair was so dressed as to stand almost erect, and was covered with a fine lawn head-dress, with lappets of Flanders lace, and pencers which hung down from the back of the head. The visitors were surprised at the splendour and costliness of the ladies' dresses, but were privately informed by the hostess that two suits would last for life, and that they were not renewed except at marriage or some other great event.

I have already drawn on a contemporary poet of the west country for a description of a rural feast of the period. Let me give you a stanza or two from the verse of a more noted man, Sir Richard Maitland of Lethington or Thirlstane, who belongs rather to the close of the sixteenth century, in order to illustrate the fact that the ungallant pastime of satirising the ladies' apparel is no modern growth, and that fine dressing was no monopoly of the nobility or county families. Sir Richard wrote a long "Satire of the Town Ladies," of which this is a sample:—

"Sum wives of the burrows-toun
 Sa wonder vane are and wantoun,
 In warld they watt not what to wear,
 On claithes they wair monie a croon,
 And all for new fangleness of geir.

"Their goons are costlie and trimlie trails;
 Barrit with velvons, slieve, neck, and tails,
 And their foreskirt of silks seir [several],
 Of finest camroche their faik-sails [over-mantle],
 And all for new fangleness of geir.

"And of fine silk their furrit clokes,
 With hingand sleeves like geill-pokes;
 Na preaching will gar them forbeir
 To wear such things that sin provokes,
 And all for new fangleness of geir."

Others of Maitland's poems shew us how wonderfully similar, under varying circumstances, has been the condition of human life from age to age. In these verses, for example, you would think you had a present-day wail about landlord oppression and the decay of agriculture:—

"Some with deir farme are herriet hail,
 That wont to pay but penny mail;
 Some by their lordis are oppresst,

Put frae the land that they possessed;
 Sair service has some herriet soon;
 For carrage als some has no rest,
 Tho' their ain work should ly undone.

“ Sic extortion and taxation
 Was never seen into this nation.
 Taen of the commons of this land,
 Of whilk some is left waste liand,
 Because few may sic charges bear;
 Mony has whips now in their hand
 That wont to have baith jak and speir.”

Again the poet complains of wasteful extravagance:—

“ Now we have mair, as is weill kend,
 Nor our forebears had to spend,
 But far less at the year's end;
 And never has ane merrie day.”

Wonderfully like, too, an echo of the voice of John Knox from the previous century. It is taken from his “Treatise on Fasting,” issued in 1565.

“ What reverence is had to God's messengers, and what respect unto the poor, that now so multiply within this realm (that the like hath seldom been seen)? Though we will cease, the stones will cry, and condemn us; and yet what superfluity, what vanity, what feasting, riotous banqueting have been, and yet are used in court, country, and towns, although the tongues of men dare not speak, yet we think the purses of some do feel, and in their manner complain.

“ Let us consider what God craveth of us, but especially let Earls, Lords, Barons, Burgesses, and Artificers consider by what means their substances are increased. It is not enough to justify us before God that civil laws cannot accuse us. Nay, brethren, the eyes of our God pierce deeper than the laws of men can stretch. The law of man cannot convince the Earl, the Lord, the Baron, or Gentleman for the oppression of the poor labourers of the ground, for his defence is ready: I may do with mine own as best pleaseth me. The merchant is just enough in his own conceit if before men he cannot be convicted of theft and deceit. The artificer or craftsman thinketh himself free before God, albeit that he neither work sufficient stuff nor yet sell it for reasonable price. The world is evil, saith he, and how can men live if they do not as others do? And thus doth every man lean upon the iniquity of another, and thinketh himself sufficiently excused when that he meeteth craft with craft, and repulseth back violence either with deceit or else with open injury.”

The Reformer and the Minstrel each in his own way bewailed the same evils as characteristic of his own age.

Among the annual merrymakings of the period in Dumfries were two days' horse races, for which the Town Council pro-

vided several prizes in the form of silver bells and silver cups; in October there was the riding—more properly the “redding” or clearing—of the marches, when the Town Council, the Incorporated Trades, and Burgesses generally encompassed the far-extending town lands with much state, and the people held high holiday; and they were enjoined by Act of Parliament to hold twice in the year a wappenshaw for practice in the use of fire arms, the Siller Gun, which James VI. had presented to the Trades, and which now hangs in the Town Hall, being shot for on such occasions. “Promiscuous dancing” is included in a list of minor vices to which the Rev. John Blackader found the parishioners of Troqueer addicted, especially on occasion of marriages. A more questionable form of amusement, and one which shews the rough spirit of the time, was that which took place on the annual sort of gala-day in the burgh school. On Fastern’s Eve, that being the 6th of April, there was in the school an exhibition of cock-fighting, the pupils supplying the birds and “gentlemen of note” coming to share the entertainment. In accounts connected with the education of Sir Robert Grierson of Lag (the “Auld Sir Robert” of Redgauntlet and the Covenanters’ persecution) there occur entries of contributions for this sport.

From what may be called the personal and social aspects of the time, let us turn to the legal or political aspect, and see what was the system of local government which existed and how it was worked. The circumstance which strikes one most forcibly in reading the chronicles of the town at this time is the great power which was possessed by the Town Council and the extraordinary variety of subjects in regard to which it was exercised. That power was shared in matters affecting public morality by the Kirk Session, which, in regard to a certain class of cases, had the power of inflicting fines or imprisonment, but which more frequently called upon the civil power to undertake the trial and punishment of offenders. These two bodies, jointly or severally, exercised an almost uncontrolled authority in the departments both of trade and morality, which stopped short only of the power to inflict capital punishment. The law of the country was in a very rude state. The liberty of the subject was a doctrine which might be known to the statute-book, but it received little practical recognition. Travelling was a laborious, tedious, and expensive process; so that it was next to impossible for most suitors to bring their case under the review of a higher tribunal; and neither the purity nor the justice of the decisions of these courts of appeal was to be altogether depended upon. The Court of Session had been established; but as yet it concerned itself only with civil business. Two Justiciary Judges had been appointed, who made a circuit of the kingdom for the trial of important criminal cases. But the Privy

Council retained in its own hands the power to try all such cases ; and we know from the black record of the persecution that that court could be made, under despotic influences, to exhibit all the vices of the Star Chamber and the High Commission Court.

The Town Council of this period exercised along with the magistrates the powers of judges. It was in the main a self-elected body, the Council itself choosing those who should take the place of the members whose turn it was to retire ; but it included the Deacons of the seven Incorporated Trades, who had something of a representative character. The magistrates at least would receive a salary. They continued to do so until some time after the passing of the Municipal Reform Act of 1833. And we shall see later on that the strict opinions with regard to the expenditure of public money with which we are now familiar did not then obtain.

It is well known that at the time of which I speak, and indeed until a recent date, no one could follow any trade in the town, or could engage in any kind of business, unless he was by birth a burgher or had by purchase acquired the privilege ; and he must also be a member of one of the guilds or incorporated trades, and therefore have served an apprenticeship. Even when he had complied with these conditions he was by no means at liberty to "do as he liked with his own." Marketing was fenced about with a code of regulations establishing the three offences of forestalling, regrating, and engrossing, which were the subject of a learned paper recently contributed by Sir James Marwick to the Scottish Antiquarian Society. The purport of them was that you must not sell merchandise of any kind except in the public market, within the hours officially appointed for the holding of the market, and at the particular cross or other spot appointed for the sale of the article in which you dealt ; that you must not buy with the purpose of selling over again at a profit, at least in that market or within four miles of it ; and you must not buy large quantities with the purpose of forming what would now be called a corner and so raising the price say of meal by an artificial scarcity. To sell outwith the market was to forestall ; to buy for re-sale was to re-grate ; to buy for the purpose of holding up was to engross ; and these were all punishable offences. The Town Council also had a right of pre-emption over goods brought to market, and they frequently, from considerations of public convenience, bought large quantities of such things as meal and fish, which were afterwards retailed to the community. The price at which different commodities were to be sold was arbitrarily fixed by the Council. I have made reference to the excise of bread and the excise of ale. On other occasions they ordained that candles should be sold at 4s 6d Scots money for "ilk pund Scots weight," and French wines at five groats a pint. They exercised a close supervision of the

public-houses, and by local enactment anticipated and even out-did Forbes Mackenzie, ordering the houses to be closed altogether on Sundays and at ten o'clock on week nights. The national legislature was equally advanced on the temperance platform. An Act passed in 1661 enjoined Justices to be diligent in putting into execution the Acts "for the punishing of all persons found guilty of the sin of drunkenness or excessive drinking, especially under the names of healths, or haunting taverns or ale-houses after ten of the clock at night, or at any time of the day except in time of travel, or for ordinary refreshments." The municipal Act was indeed practically a repetition of the general statute, embodied in the local records probably as a means of publishing it. The vice of intemperance and that of profane swearing seem to have been characteristic of all classes, not excepting the clergy, if we may judge from the terms of another statute of the same year.—(Read Act 19 of the Scottish Parliament held at Edinburgh in January, 1661-2.).

An Act of Council passed late in the century disqualified any person who made or sold intoxicating liquor from acting as Provost; in the eighteenth century the prohibition was extended to all offices of the magistracy.

Along with the Kirk Session, the Town Council was largely occupied in trying persons who took part in drunken brawls. They were, moreover, believers in that sound maxim that "Prevention is better than cure;" but their way of putting their faith into practice was repugnant in some particulars to modern ideas. Thus, they argued that these brawls frequently arose out of festive and social meetings; and therefore, striking as they would no doubt think at the root of the matter, they passed a law strictly limiting the attendance at marriages, baptisms, and funerals under pain of fine or imprisonment; and they also fixed a limit within which the expense of entertainments on such occasions should be restricted. In this again they were echoing the legislature.—(Read Act 14 of the third Scottish Parliament of King Charles II., September 13, 1681—"Act restraining the exorbitant expense of marriages, baptisms, and burials.").

The Town Council and Kirk Session not only framed stringent laws for the regulation of the drink trade, but they were vigilant in seeing that they were observed. The modern police force was then represented only by the town officers, who had other duties to discharge; and the civic rulers undertook in this matter to lend them voluntary assistance. Eight members of Council were specially told off, in committees of two, to keep a watch upon the public-houses in the four quarters of the town; and a like number of members of Kirk Session were appointed to attend at the gates to the town on the afternoon of market days and make a note of any persons who were seen under the influence of liquor, with instructions to have them apprehended

if they could procure the services of an officer. The Town Council added to its other onerous duties the charge of the burgh school, taught, I think, in the Tolbooth, and they required all burgesses who were able to pay the fees to send their children there. But here again that spirit of monopoly prevailed, for they imposed a heavy fine upon all "pettie dominies" who should teach children in other schools; a power this which in the hands of a School Board might be fatal to adventure schools. As showing the state of education at the time, and also affording some indication of the qualifications of the councillors for the many duties they assumed, it is interesting to note that at the date of the first minute of Council, 1623, thirteen members out of twenty-four, or a majority of the whole, were unable to sign their names.

The members of the Council, with all their zeal for temperance, by no means set an example of abstinence; and, as I have said, they were not restrained by any punctilious scruples about the propriety of spending public money on their own entertainment. Their drink bill, at least on all occasions which could be called public, was paid out of the public purse. They had wine or ale before going to the court, the council, or the kirk. They must have relaxed in their own favour the stringency of the infant Forbes Mackenzie. They drank when they had business of any kind to transact with outsiders, and when any distinguished person was made a burges; and on such other occasions as the anniversary of the King's birthday or the annual election. Their drink and feasting bill from March, 1670, to October, 1673, amounted in Scots money to £797. Reduced to sterling coin, of which Scots was only one-twelfth the value, this amounted to the less extravagant sum of £66; but even that was a very large figure when we remember the low wages of the time and the high purchasing power of money. It was equal to a labourer's wages for five years. A labourer then received between 5s and 6s sterling weekly. A leg of mutton could be bought for 8d or 10d, and a dozen eggs for 1¼d. By expenses such as these the town's patrimony was consumed, until it had to become in our own days a suitor to the Crown for a gift of Kingholm and Hannahfield, which were once but a small portion of its own estate.

The Kirk Session, like the more secular body, showed a strong disposition to interfere in private affairs. It could impose civil penalties, and it sometimes offered to support the action of the secular authorities with ecclesiastical censures, as in the case of enforcing the licensing laws. This would be no light matter at a time when ecclesiastical censures might involve the shame of a public rebuke from the pulpit and exposure in sackcloth before the whole congregation. The duties of the Session were so many and so onerous that meetings were held

twice a week. In addition to the cases now commonly dealt with by such bodies, it was largely occupied in trying persons accused of circulating scandal, of intemperance, and of Sabbath-breaking. On one occasion a piper applied to the Session for liberty to follow his vocation in the town; but the members would seem to have been rigid anti-instrumentalists, for they advised the poor wight to "betake himself to some more honest and lawful way of living."

It was not only trespasses against the moral law, breaches of the King's peace, or offences against the lives or property of the King's lieges that were visited with pains and penalties. The efforts of our rulers were directed to securing both uniformity and regularity in public worship. All persons who failed to attend the parish church were subjected to a fine. The inhabitants of Kelton seem to have been sinners above other men in this respect. The minister was instructed to call over their names from the pulpit every Sabbath, and absentees were fined six shillings. These measures were directed not only against the openly indifferent and ungodly, but also in an especial manner against Roman Catholics; and still more severe measures were adopted to prevent the practice of their religion by those who adhered to that proscribed sect. It is to the honour of our country that they shed no blood in endeavouring to suppress Romanism; but until ideas of toleration had leavened public policy they adopted measures sufficiently harsh and intolerant to justify Milton's sarcasm that new Presbyter was but old Priest writ large. Roman Catholics, including the Earl of Nithsdale and Lord Herries, both residents in this district, the one at Caerlaverock, the other at Terregles, were proclaimed "excommunicated rebels;" and the Privy Council deprived Lord Nithsdale of the paternal right of superintending the education of his son. Numerous persons, chiefly women, were apprehended at the instance of the Kirk Session for hearing mass, and were taken to Edinburgh, where the Privy Council sentenced them to imprisonment; and the same tribunal had before them a luckless pair who had had the hardihood to get a Roman Catholic priest to marry them, the ceremony being performed for greater secrecy in the fields near Lincluden after nightfall. Blackader of Troqueer was greatly exercised over the tenacity with which Mr and Mrs Maxwell of Mabie and residents on their estate adhered to the ancient faith, and the obstinacy with which they refused to attend the parish church. After years of ineffectual dealing with them the Presbytery of Dumfries passed sentence of excommunication. The laird quailed before the storm, but "Lady Mabie" was firm, and Blackader publicly and solemnly delivered her and eight others over to Satan in pursuance of the sentence. If he was stern with others, he was himself of the stuff of which martyrs are

made. A few years later the changes brought about by the restoration made his own church a proscribed sect, and he became an exile and a prisoner for conscience sake.

Besides fine and imprisonment, modes of punishment peculiar to the time were then in use, and some of them were quaintly appropriate to the nature of the offences. Thus a scandal monger was exposed in public with the branks, a wooden muzzle, upon her tongue; and a vixen was shaven at the market cross. More common forms of chastisement were the placing of culprits in the joughs, an iron collar which was fastened to every market cross and church door, or in the pillory. The latter was a savage punishment, the neck of the person being enclosed in a wooden collar at a height which just allowed him to touch the ground with his toes and consequently caused the weight of his body to rest on the chin and back part of the head. Scourgings were also resorted to, and as an additional disgrace the delinquent was often carted through the town. An instrument of punishment that was commonly in use in Britain at this time was the ducking stool. A strong chair was fixed to the end of a movable plank and suspended over the river or a pool of water; and by elevating the other end of the plank the victim (generally a scolding or drunken woman) was immersed as often as the sentence required. The ducking stool, however, was more of an English than a Scotch institution; and it does not seem to have been established in Dumfries.

The power of imposing the punishment of death was restricted in ordinary times to the Privy Council and the Circuit Court. Trial at the latter was by judge and jury. The judges were not always trained lawyers. There were two judiciary judges; but the courts seem to have been more frequently presided over by a number of landed proprietors, to whom a commission for the purpose was issued by the Privy Council. The Earl of Buccleuch and other members of the Scott family figure in these commissions. The trials at these courts were chiefly for cattle lifting and theft, both of which offences were punished with death. The common mode of execution was by hanging, but sometimes the criminal was allowed the less degrading death of drowning in the Nith. A more revolting form of death, that of burning, was reserved for those whose crimes were viewed with special horror. Such were the unfortunate creatures to whom the dark superstition of the time ascribed powers of witchcraft. Belief in the possession of magical powers by persons who might have incurred the displeasure of their neighbours was universal at this time. It was not confined to the ignorant and the degraded; but was shared by the most learned and exalted in the land, and none were more zealous in the discovery and persecution of reputed

witches than the ministers of the church. Kirk Sessions were turned into inquisitorial courts, and invitations were addressed from the pulpits to any who might be possessed of information that would aid in convicting suspected persons to make it known to the church court, that it might be communicated to the secular authorities. Again referring to "The Gentle Shepherd," we have an indication of the powers and practices with which the popular imagination credited its objects in the soliloquy of Bauldy when he is going to consult the witch upon the prospects of his courtship:—

"She can o'ercastr the nicht and cloud the mune,
 And mak' the de'il's obedient to her crune:
 At midnight oor, o'er the kirkyard she raves,
 An' howks unchristened weans oot o' their graves;
 Boils up their livers in a warlock's pow;
 Rins withershins about the hemlock lowe, [from west
 to east]
 And seven times does her prayers backward pray,
 Till Plotcock comes wi' lumps o' Lapland clay,
 Mixt wi' the venom o' black tades and snakes.
 O' this, unsousy pictures aft she makes
 O' ony ane she hates—and gars expire
 Wi' slaw an' racking pains afore a fire,
 Stuck fou o' preens, the devilish pictures melt;
 The pain, by fouk they represent, is felt."

Numerous charms and incantations were used by the people to protect themselves and their cattle from the arts of witches. A favourite charm was the wood of the rowan-tree, a slip of which was often worn on the person and tied to the tails of cows or hung over their head in the byre. A pin made of it would also be placed above the door of the dwelling, and sometimes the tree itself would be planted beside the door. The sprinkling of blood was also considered effective, as we learn from the lilt which Hogg, in "The Brownie o' Bodesbeck," puts into the mouth of the weird visitor that so much alarmed the family at Riskinhope:—

"There's neither blood nor rown-tree pin;
 At open doors the dogs go in."

A hill at Locharbriggs was believed to be a favourite place of assembly for the witches, who doubtless would proceed to it in proper fashion, riding upon a broomstick. If the superstition had expended itself in such absurd fancies and frivolous practices, it would have been a theme only for amusement. But it forms the subject of one of the darkest chapters in our national annals. The imaginary crime of witchcraft was the object of numerous prosecutions, and was often visited with sentence of death. In 1569 Sir William Stewart, the Lyon King at Arms, was burned to death at St Andrews by sentence of the Regent Moray. One of the most tragic events that ever

occurred in Dumfries was the execution, just a hundred years later, of nine reputed witches, who were tried at one assize, and condemned to be strangled and their bodies afterwards burned. It does not appear that torture was resorted to in order to extort a confession of guilt from these unhappy creatures; but the same object was sometimes gained by the rigours of a lengthened imprisonment before trial. One poor woman, against whom sufficient evidence was not forthcoming, was imprisoned at Kirkcudbright, near the close of the seventeenth century, for two years, until she prayed her persecutors to end her sufferings by death; and her melancholy request was granted, on the strength of a confession thus obtained, by a commission appointed by the Privy Council. It is sad to note how tenacious of life this cruel and debasing superstition was. The last trial for witchcraft before the Justiciary Court in Scotland took place at Dumfries in 1790, when the accused was burned in the cheek with a hot iron and banished for life. But it projected its baneful shadow even into the nineteenth century, for in the year 1805 the Steward-Depute of Kirkcudbright sentenced a person accused of pretending to powers of witchcraft to imprisonment for a year and repeated exposure in the joughs.

During the time covered by our narrative the country passed through a civil war, and "the bridge port" for a time bore grim memorials in the form of the heads of "rebels," as the Covenanters were styled. The Committee of Estates recruited an army for operations against Charles, and required all citizens to contribute for its support. A committee entrusted with the carrying out of these objects in Dumfriesshire, as well as other parts, sat generally at the Kirkcudbrightshire village of Lauriston, then called Cullenoch, but certain "substantious" burgesses of the town were deputed by the committee to receive contributions, and they sat in the Town Hall for that purpose for a portion of every lawful day during part of the years 1640 and 1641. The contributions were not altogether voluntary, but were enforced where necessary by poiding and sale; and people were required to bring not only money of the realm, which was somewhat scarce, but also articles of silver and gold, for which they were promised a money equivalent when the war should be over. A regiment recruited in the south, and placed under command of Lord Kirkcudbright, was also billeted for some time in the town. Some of the actual campaigning took place in the neighbourhood. Caerlaverock was the stronghold of the Royalist family of Maxwell, and it was reduced after a month's siege by the Parliamentary General, Home.

But I shall not pursue the subject of the war, the general history of which is foreign to our subject. Our hasty survey has helped to show that our ancestors of the seventeenth century lived under a system oppressive and inquisitorial, and

that in many respects their lot was a hard one; but it was brightened too by humble pleasures, and they were not exempt from the little vanities and weaknesses of their twentieth century descendants. And when we feel disposed too strongly to commiserate their lot we must reflect that it was amid those hard conditions that the heroes of the Covenants were reared.

24th April, 1903.

Chairman—Mr JAMES BARBOUR, Vice-President.

EXHIBIT.—Stone axe found on Grange Farm, Dalbeattie, by Mr James Biggar.

I.—TRANSLATIONS OF NARRATIVES, CHIEFLY CONTEMPORARY, OF THE DEATH OF COMYN, AND OTHER DOCUMENTS RELATING TO DUMFRIES AND GALLOWAY.

By Dr E. J. CHINNOCK.

MATTHEW OF WESTMINSTER'S ACCOUNT.

Translation of an extract from Matthew of Westminster's "Flores Historiarum." Matthew was a contemporary of Bruce, whose Chronicle concludes with the year 1307.

"After all these things had thus been brought to conclusion, a new war arises again in Scotland. For the Earl of Carrik, Robert de Brus, collects, at first secretly, afterwards openly, some of the nobles of Scotland, saying to them:—'You know how this kingdom belongs to me by the hereditary law of succession, and how this nation had proposed to crown my father king, but was defrauded of its desire by the craft of the King of England. If therefore you will crown me king I will fight your battles and will free this kingdom and nation from English servitude.' This he said, and forthwith many of the perjured agreed. But when he asked John Comyn, a very noble soldier and powerful man, whether he would also agree to it, he distinctly replied that he would not, and says:—'Since all nations know that the King of England has conquered our land and nation four times, and that all soldiers as well as clergy have sworn faith and homage to him for the present and for the future, far be this from me. I will never certainly

agree to, lest I perjure myself.' Bruce persuades, Comyn dissuades, Bruce threatens, Comyn is aghast, and Bruce having drawn his sword, struck the unarmed soldier on the head, who tried to wrest the sword from the hands of his assailant, and he would have cast him down beneath himself (for he was a very strong man), but the traitor's attendants ran up and stabbed him with their swords, freeing their master. But the Lord John escaped as well as he could to the altar. Robert followed him, and as he refused to agree, the man, impious and cruel, sacrificed a pious victim. This was done in the Church of the Minor Friars at Dumfries."

SIR THOMAS GRAY'S NARRATIVE.

The Rev. John Leland was the earliest of British antiquaries. He lived in the reign of Henry VIII. In his "Collectanea" he translated certain portions of a MS. copy of Gray's "Scalacronica." On page 542 occurs the following translation:—"Robert de Bruse, counte of Carrik, that bare himself very bold of his kinsmen in Scotland, trusting to wynne his title of the corone of Scotland, caussid John Comyn, by sending to hym his 2 bretherne to meete with hym at the Gray Freres at Dunfres to speke with hym. And wen he cam thyther, Bruse told hym hys mynd and bad hym 'other take his enheritance of Carrik and help me to be King of Scotland, or let me have thyme, and I wyl help the to be king.' But John Comyn not consenting to this was slayn, and his uncle also, that strake Bruse afore such a blow, that if he had not been harnessid, he had slayn hym." Sir Thomas Gray of Heton was a leading warrior in the English armies of Edward I. and II. He was the ancestor of Earl Grey and Sir Edward Grey. Being taken prisoner by the Scots, he was sent to Edinburgh, where he employed his time in writing a history of the time, which he called "Scalacronica," the Ladder of History. A ladder was the device on his own coat-of-arms. The book is composed in the Norman French of the period, and requires considerable knowledge to understand. The only MS. existing is in the library of Corpus Christi College, Cambridge. It was edited by Joseph Stevenson, and printed and published by him for the Maitland Club, Edinburgh. I have translated Gray's account of the death of Comyn:

“At this same time Robert de Bruis, earl of Carrik, who bore himself boldly of his kinsmen and allies, trusting to prove his right to challenge the succession to the realm of Scotland, in the year of grace, 1306, 29th of January, sent his two brothers, Thomas and Neil, from Loghmben to Dalscuentoun to John Comyn, begging him to be willing to meet him at Dromfres, in the Minor Friars, that they might be able to converse. He had arranged with his two brothers aforesaid that on their journey they should kill the said John Comyne. The which were received in such a friendly manner by the said John Comyne that they could not consent to do him any harm; but they agreed that their brother should himself do his best. The said John Comyn, who was thinking no evil, betook himself with the two brothers of the said Robert de Bruys to Dromfres to speak with him. They came to the Friars, where he found the said Robert, who came to meet him. So he led him to the high altar. The two brothers of the said Robert spoke to him privately. ‘Sir,’ said they, ‘he gave us such a handsome reception, and with such large gifts, and trusted us so much by so open a countenance, that in no manner were we able to do him harm.’ ‘See,’ said he, ‘you have well discharged your duty; leave me to manage.’ He took the said John Comyn, and they approached the altar. ‘Sir,’ then said the said Robert de Bruis to the said John Comyn, ‘this land of Scotland is entirely subdued into servitude by the English through the default of the leader, who allows his own right and the freedom of the realm to be lost. Choose one of two ways; either take my inheritance, and help me to become king, or give me yours. So I will help you to become king; for you are of his blood who lost the crown. Or I will take it, who claim it by succession from my ancestors, who claimed the right to have it, but who were debarred by the votes. For now is the time, in the old-age of this English King.’ Then said the said John Comyne, ‘I will certainly never act falsely to my English lord in what has been entrusted to me on oath and homage in anything which can be imputed to me as treason.’ ‘No,’ said Robert de Bruys to him, ‘I had another hope in you, by promise of you and yours; but you will reveal it to the King by your letters. Wherefore, if you live, I cannot achieve my wish. You shall have your reward.’ So he struck him with his dagger; others cut him down in the midst of

the church before the altar. A knight, his uncle, who was present, struck the said Robert de Bruys with a sword on the breast. But as he was armed it did not wound him. The uncle was killed there."

THE NARRATIVE OF THE CHRONICLER OF LANERCOST.

The Chronicle of Lanercost was written by a Minor Friar of Carlisle, attached to the Abbey of Lanercost, in Cumberland. He was a contemporary of Bruce. There is only one MS. of it existing. Stevenson says:—"It forms one of the treasures of the Cottonian collection in the British Museum." It was printed and published for the Maitland Club, Edinburgh, and edited by Joseph Stevenson, the editor of Gray's "Scalacronica."

Translation:—"In the same year, on the 10th of February, to wit, on the feast of the Holy Scholastic Virgin (Feb. 10, 1306), the lord Robert Bruse, earl of Carrike, with sedition and in guile sent for the lord John Comyn to come and speak with him at the Minor Friars of Dumfres. And when he had come, he killed him in the church of the Friars, and the lord Robert Cumyn, his uncle. And afterwards he took the castles of Scotland and their garrisons, and on the Annunciation of the Blessed Virgin next following (25th March, 1306), he was made King of Scotland at Scone, and many of the greater and less men of the land adhered to him."

TRANSLATION OF EXTRACT FROM HEMINGBURGH'S CHRONICLE.

"Christopher de Seton, who had married a sister of the new King named Mary, and was an Englishman, was captured in the Castle of Lochdor, as were afterwards his wife and many others. The King ordered him to be taken to Dunfrees, where he had killed a soldier, and there to be drawn, hanged, and beheaded. His two brothers and all others who had agreed to and taken part in the death of the lord John Comyn had the same sentence. And this was by the special order of the King. But the King placed Christopher's wife in the monastery of Thixtell in Lyndesay, and he placed the new King's daughter in the monastery of Wotton. And our lord the King gave to lord Edmund de Malolacu the manor of Sethon in Wythebystrand, which was Christopher's, and his other lands which he had in Northumberland the King gave to lord William de Latymer."

TRANSLATION OF EXTRACT FROM THE CHRONICLE OF LANERCOST.

“They hanged those who had given advice and assistance in the foresaid conspiracy to make him king; and they caused the greater of them first to be drawn at the feet of horses, and afterwards hanged them. Among whom were Christopher de Setone Englishman, who had married a sister of the often-said Robert, and John and Humfrid, brothers of the said Christopher, and some others with them.”

TRANSLATION OF EXTRACT FROM SIR THOMAS GRAY'S
“SCALACRONICA,” P. 131.

“Thomas, earl of Lancaster, and Humfray de Bouhun, earl of Hereford, who had passed the mountains of Scotland, besieged the castle of Kyndromy in Mar and took it. In which castle was found Christopher de Setoun with his wife, the sister of Robert de Bruys, who as an English renegade was sent to Dunfres, and there hung, drawn, and beheaded; where he had before helped to kill a knight, the viscount of the country, representing the King of England.”

TRANSLATION OF SECOND EXTRACT FROM GRAY.

“Robert de Bruys formed a great plan and sent his two brothers, Thomas and Alexander, towards Niddisdale, and the vale of Anande, in order to levy the requisitions from the people. Where they were surprised by the English and taken, and led by the King's order to Cardvil, and there hung, drawn, and beheaded.”

I have now translated all the extant accounts of the assassination of John Comyn, which were written during 100 years after the event. The contemporaries were Walter of Hemingburgh, Matthew of Westminster, the Chronicler of Lanercost, and Sir Thomas Gray. The last named was, like Bruce and Comyn, a Norman knight. I have also appended Barbour's account published 70 years after the event, and John of Fordun's account published about 80 years after the event. It seems to me that Hemingburgh, supplemented by Gray, gives the most reliable account. I am trying to trace the *first* account of the Kirkpatrick episode, but at present I have not found it. At any rate, no author within 100 years has anything about it.

ADDITIONAL NOTE.

I have consulted the Chronicle of John of Fordun, who is recognised by all historical students as the best authority on this period of the History of Scotland from the Scottish point of view. He was a friar of Aberdeen, and wrote about eighty years after the death of Comyn. He is believed to have been acquainted with John Barbour, Archdeacon of Aberdeen, the author of "The Bruce." Fordun's account does not seem to throw much discredit on that of Hemingburgh. It must be remembered that eighty years intervened between him and his English predecessor, and that there is absolutely no contemporary record by a Scotsman. On referring to the Dictionary of National Biography I see that Sheriff Aeneas Mackay thinks that the account given by Hemingburgh is probably the most to be depended upon.

TRANSLATION OF EXTRACT FROM JOHN OF FORDUN'S CHRONICLE
OF THE SCOTTISH NATION.

"In the same year, after the aforesaid Robert had returned home from the King of England, no less marvellously than by divine grace, a day is agreed upon between him and the aforesaid John to meet together at Dumfries; and both parties proceed to the aforesaid place. John Comyn is upbraided for his treachery and troth belied. He forthwith replies, 'You lie.' A mortal wound is inflicted upon the evil-speaker in the church of the Friars, and the wounded man is laid behind the altar by the friars. He is asked by those who stand around him whether he can live. He straightway himself answers, 'I can.' His foes hearing this give him a second wound; and thus on the 10th of February he is withdrawn from this light."

Since writing the above I have been looking into Barbour's "Bruce," and I think that his account should accompany that of Fordun. Everyone knows that John Barbour is next to Geoffrey Chaucer, the greatest of old English authors. His "Bruce" is the Epic of Scotland, written for the glorification of the national hero. It was published in 1375, about ten years before Fordun's Chronicle. I have extracted from the poem what is said about the death of Comyn:—

"So fell it in samyn tid,
 That at Dumfres, rycht thar besid,
 Schyr Jhone the Comyn soiorning maid;
 The Brus lap on, and thiddir raid;
 And thoct, for-owtyn mar letting,
 For to gwyt hym his discoueryng.
 Thiddir he raid, but langer let,
 And with Schyr Jhone the Comyn met,
 In the freris, at the hye awter,
 And schawyt him, with lauchand cher,
 The Endentur; syne with a knyff
 Rycht in that sted, hym reft the lyff.
 Schyr Edmund Cumyn, als was slayn,
 And othir also off mekill mayn.
 And nocht for thi yeit sum men sayis,
 At that debat fell othir wayis:
 But quhat sa euyr maid the debate,
 Thar—through he deyt, weil I wat.
 He mysdyd thar gretly, but wer
 That gave na gyrth to the awter.
 Therefor sa hard myscheiff him fell,
 That ik herd neuir in romanys tell
 Off man so hard sted as wes he,
 That efterwart com to sic boute."

So far as I know at present, the only accounts thereof written within 100 years of the event are Hemingburgh's, Matthew of Westminster's, Barbour's, and Fordun's. All the other incidents related seem to be accretions entirely legendary, and each of us according to his temperament is at liberty to believe as much or as little of them as he pleases. If anything can be shown to have contemporary evidence for it, it may be taken as authentic. I have never met in England, Scotland, or Ireland a single individual who was not an admirer of the Bruce of Bannockburn, the liberator of Scotland; but though all intelligent men admire King Robert they are not obliged to disbelieve anything because it may seem to be to the discredit of the hero. The poet in the extract distinctly says that his hero did wrong, and what Barbour thought and said we are at liberty to think and say.

In the passage from Barbour there is a mistake in the name of John Comyn's brother. Three MSS. have *Edmund*, two MSS. *Edward*. The right name was *Robert*. There is only one difficult word *gyrth*, which means *sanctuary*. The line means "That respected not the sanctuary of the altar."

TRIVETH'S ACCOUNT OF THE DEATH OF COMYN.

Nicolas Triveth was the prior of the London Dominicans. He was a contemporary of King Robert the Bruce. He wrote "Annales Sex Regum Angliæ," the chronicle of Six Kings of England, from Stephen to Edward I. He was as highly esteemed on the Continent as in Britain.

Translation:—"In the same year, the 10th of February, Robert de Brus, aspiring to the throne of Scotland, in a sacrilegious manner killed the noble man John Comyn, in the church of the Minor Friars at the town of Dumfreis, in the castle of which the justiciaries of the King of England were then sitting, because he refused to agree with his treacherous faction."

THE "I'LL MAK' ^{sicker} ~~SICKER~~" EPISODE.

The statement that Roger Kirkpatrick completed the assassination of the Red Comyn is supported by no contemporary authority, and relies entirely upon oral tradition. The only Scottish historian of the 14th century, John of Fordun, does not mention it at all. Walter Bower, the author of the "Scotichronicon," written in 1447, and the author of the Book of Pluscarden, compiled in 1461, the next historians to Fordun, do mention it. Fordun wrote 85 years after the event, Bower 141, and the author of the Book of Pluscarden 156 years thereafter. Therefore, the first mention of Kirkpatrick's part in the affray occurs nearly a century and a half after the event. Bower says that James Lyndsay, together with Gilpatrick of Kirkpatrick, gave Comyn the finishing stroke. The author of the Book of Pluscarden says James Lyndesay of Kilpatrick, the cousin and very dear friend of the said Robert de Broys, performed the exploit. These are the first two chroniclers to bring in the name of Kirkpatrick at all. The Book of Pluscarden has been erroneously ascribed to Bishop Elphinstone, of Aberdeen; but the author tells us in the preface that he knew Joan of Arc, who died in 1430, while Elphinstone was not born till 1437. Felix Skene, the editor of the printed copy, says that it was probably compiled by a priest named Maurice Buchanan, who had been treasurer to the Dauphiness of France. Of course, both the histories are in Latin.

WYNTOUN'S ACCOUNT.

I append the account given by Androw of Wyntoun, prior of

the monastery of St. Serfon, Lochleven. He wrote "The Orygynate Cronykil of Scotland," about 1420.

"Fra Lundyn on the fyft day
 Till Lochmabane than come thai.
 Hys brodyr Edward there he fand,
 That thought ferly, he tuk on hand
 To cum hame sa prevaly.
 He tald hys brodyr halyly,
 How he chapyd, and all the cas,
 How before all hapnyd was.
 Sa fell it in the same tyde,
 That at Dumfres rycht there besyd
 Schyre Jhon the Cumyne his dwelling made.
 The Brus lap on, and thidder rade.
 Thaire togyddyr as they mete,
 But gret delay, or langere lete,
 In the Freris at the hey autere
 He schawyd hym with hevy chere
 Hys indenture. Than wyth a knyff
 He revyd him in that sted the lyff.
 Quhat that efftyr this Brus Robert
 In all his tyme dyde efftyrwart
 The Archedene off Abbyrdene
 In Bruys hys Bok has gert be sene
 Mare wysly trefyde in to wryt,
 Than I can thynk wyth all my wyt."

From Book III., chapter 18.

The "mak' siccar" episode seems to have been founded on oral tradition. It does not appear in any writer, I believe, till the middle of the 15th century, 150 years after the event, and those historians who mention it give no authority for it. I will consult Nisbet's *Heraldry*, if I can, and see what he says about the date when the Kirkpatrick crest of arm and dagger, with the motto "I'se mak' siccar," were first used, and the reason why Lyon King of Arms gave authority to the family to use it.

TRIVETH'S ACCOUNT OF THE EXECUTION OF SETON.

Translation:—"After this, the castle of Lochdor was taken, in which was found Christopher de Setone, brother-in-law of Robert de Brus, when, since he was not a Scot, but an Englishman, the King ordered to be taken to Dumfries, where he had killed a certain soldier of the King's party; and there he was compelled to undergo his trial, was drawn, hanged, and finally

beheaded. But he placed Christopher's wife and the daughter of Robert de Brus in different nunneries." (*Monalium monasterium*—monastery of nuns. *Monale*—nun.)

EXTRACTS RELATING TO DUMFRIES AND GALLOWAY FROM JOHN OF FORDUN'S CHRONICA GENTIS SCOTORUM.

I.—Page 300 of W. F. Skene's Edition. A.D. 1264.

When the news of the death of Hako, the King of the Norwegians, reached King Alexander he quickly gathered a strong army, and prepared to set out in his fleet to the Isle of Man. But the King of Man hearing thereof was panic-stricken, and sent his messengers to the King to say if a truce were granted him he would come into his presence in Scotland. The King, however, did not swerve from his purpose nor relax his preparations for departure; but having sent him a safe conduct to himself, quickly collected his army, and led it in the direction of the Isle of Man. He arrived at the town of Dumfries, where the same petty King met him, and became the vassal of the King of Scotland, doing him homage for his petty kingdom, to hold it of him for ever, under this condition, that if the King of the Norwegians for the time being should presume to molest him he should have for himself and his for all time to come a safe refuge in Scotland, and that the petty King of Man himself should provide for his lord the King of Scotland, as often as he should need them, ten pirate galleys, namely, five of twenty-four oars and other five of twelve oars.

II.—Page 342. A.D. 1306.

In the same year Thomas and Alexander de Bruce, brothers of the aforesaid King, while hastening towards Carrick by another route were taken at Loch Ryan, and were beheaded at Carlisle. And so all those who departed from the King in the same year were either deprived of life, or, being captured, were confined in prison.

III.—Page 345. A.D. 1308.

In the same year, on the feast of St. Peter and St. Paul (29th June), Donald of the Isles, having collected an imposing number of foot, arrived at the river Dee. Edward de Bruce met him near the river Dee, and defeated Donald himself and all his Gallewegians, and in the conflict slew a certain soldier

(or knight) named Roland, together with many nobles of Galloway. And he caught the said Donald, their leader, fleeing. And after this he burnt up the island.

IV.—Page 346. A.D. 1312.

In the same year the castles of Buth, Dumfries, and Dalwinton, with many other fortalices, are taken with the strong hand and levelled with the earth.

V.—Page 356. A.D. 1332.

In the same year, on the 15th of December, John Randolph, earl of Murray, Archibald Douglas, and Simon Fraser, with a few other nobles, having met in the town of Moffat, came by night to the town of Annan. There they had a sudden encounter with Edward de Balliol; but they quickly put the said Edward to flight. John de Mowbray, Henry de Balliol, and Walter Comyn, with many others, were killed in the conflict itself, and Edward himself, with a few men, with difficulty escaped. In the same place Alexander de Bruce was taken by the earl of Murray and rescued from death.

VI.—Page 383.

In the year 1383, the castle of Lochmaben was taken by the Scots, namely, Earl William de Douglas and Archibald, and destroyed on the fourth day of the month of February.

EXTRACTS FROM THE BOOK OF PLUSCARDENSIS, WRITTEN IN 1461
BY MAURICE BUCHANAN.

I.—Book 8, chapter 10 (Edition Felix Skene). A.D. 1307.

In the first place Edward of Carnarvon caused all the magnates of Scotland to be summoned before him, both clergy and laity, at Dumfries to render him homage and to take the oath of fealty.

II.—Book 10, Chapter 22.

In the year of the Lord, 1415, the town of Penrith was burnt down by the Scots, and the town of Dumfries by the English.

II.—BURIAL MOUND AT BOGRIE; ARROW-HEADS OF FLINT AND STONE WHORLS FROM TOWNHEAD OF CLOSEBURN; AND FLAT STONES FOUND IN CONNECTION WITH OLD HEARTHES AT MOAT OF LOCHRUTTON.

By Mr ROBERT SERVICE.

Mr Service gave several interesting notes relating to the above, giving a full description of the Burial Mound at Bogrie, and exhibiting the urn found therein. Exhibits of the other articles were also made, and the notes, which were highly interesting, formed the basis of a valuable discussion, relating chiefly to the supposed age of the cairns in Closeburn, in which the arrow-heads and whorls were found.

III.—THE PRE-HISTORIC RED DEER OF SOLWAY. By Mr ROBERT SERVICE, M.B.O.U.

This interesting address was accompanied by several exhibits, which included pair of antlers on shield, sent by Mr C. Watson, Annan; left antler, belonging to the Observatory collection; fragment found in the Urr, also from the Observatory; an imperfect pair, right antler, left, and the "burr" of the other, found in the bed of the Lochar, and two imperfect antlers, belonging to the Society's museum. Among other points, Mr Service referred to the fact that the Red Deer was the animal which came most frequently under the notice of the pre-historic student. He also described the places in the Solway area where the remains were most frequently found, and discussed the question as to the probable period in pre-historic ages when these animals roved the earth.

22nd May, 1903.

Chairman—Dr SEMPLE.

EXHIBITS.—By Mr R. Service, Bronze Axe, found at Trohoughton; specimen of Ocean Pipe Fish; specimen of Angler Fish. The Pipe Fish, which had not previously been recorded for the Solway proper, was got at Glencaple; and the Angler Fish was caught at Newabbey.

MERKLAND CROSS. By Mr GEORGE IRVING, Corbridge-on-Tyne.

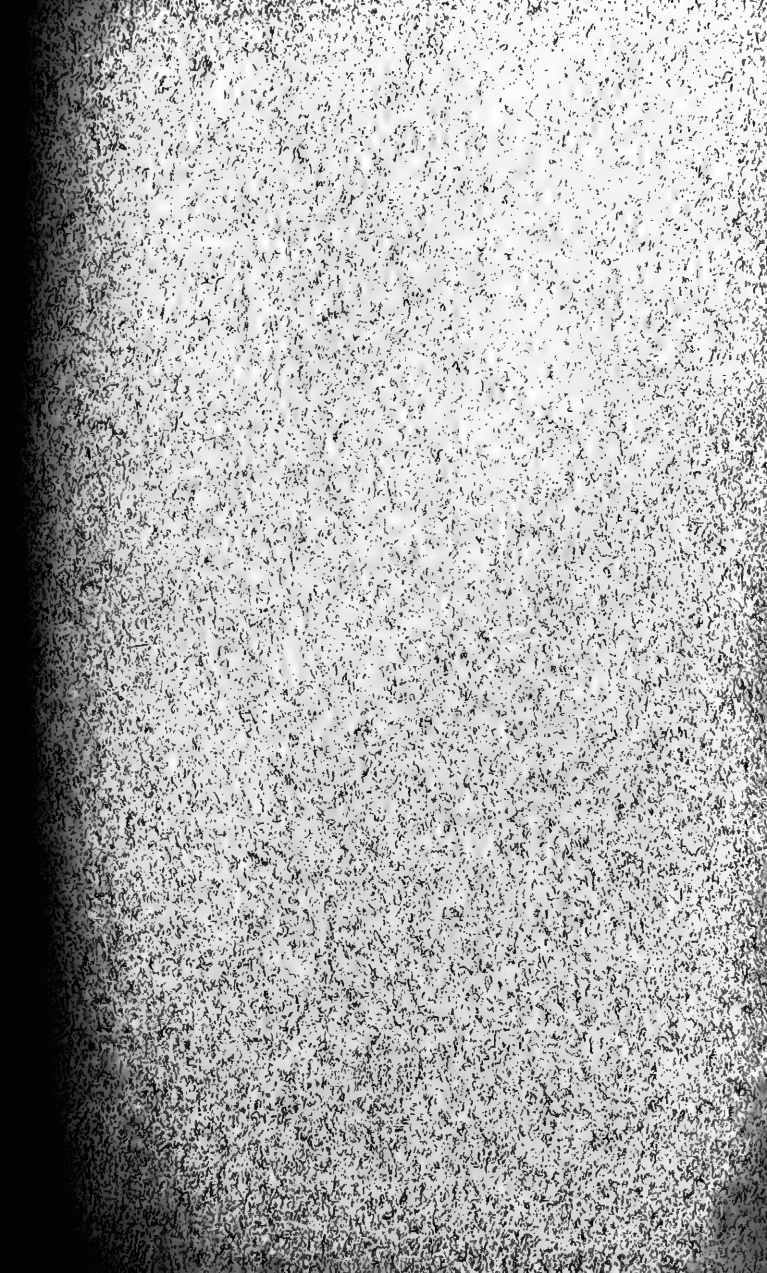
(Another interesting paper on the Rere Cross by Mr Irving is not published on account of the pressure of matter.)

This fine floriated cross of the latter half of the fifteenth century stands at Merkland, on the east side of the Kirtle, about 550 yards from Woodhouse Tower, in the parish of Kirkpatrick-Fleming. It is almost on the line of the old Roman road that led up Annandale. The floriated cross at the top of the shaft is 2 feet 4 inches high, the shaft 7 feet 10 inches, and the base about 2 feet 10 inches long by 16 inches high above ground. The lower end of the shaft is 13 inches broad by 7 inches thick and slightly tapered and chamfered to the top. It is made of the red sandstone of the district, and must have been very carefully selected to have stood the storms of four centuries. There is no inscription upon it, but there are good grounds for believing that it was erected in memory of John, Master of Maxwell, Caerlaverock and Maines. In July, 1484, the Duke of Albany and James, ninth and last Earl of Douglas, invaded Scotland from England to wrest the crown from James III. They marched into Dumfriesshire and reached Hoddum unopposed, and encamped at Birrenswark—possibly on the old Roman camp. A small part of the force pushed on to Lochmaben, announcing their intention to deposit offerings on the High Altar of the Church of Bruce's Burgh. The Master of Maxwell, Johnstone of Johnstone, Murray of Cockpeel (one of the ancestors of the present Earl of Mansfield), Crichton of Sanquhar (an ancestor of the Marquis of Bute), Carruthers of Holmains, and Charteris of Amisfield, led the Dumfriesians, and met the invaders near Lochmaben. The battle is said to have lasted all day; but when Musgrave and his men at Birrenswark saw his friends retreating, hotly pursued by Maxwell and his men, they fled to the south. The last part of the skirmish seems to have taken place on the south and east side of the Kirtle. Douglas was captured, but Albany, with the remnant of his followers, escaped during the night into Cumberland.

The death of Maxwell is recorded in an old manuscript:—
“The Duke of Albanie and the Earl of Douglas, being rebels to King James the Fourth, brought ane army out of England upon

the Magdallen day, being the 22d of July, 1484, till Lochmaben, and after the destroying of Annandale, being passing back againe to Ingland was fochen by the said Master of Maxwell at Kirtell, suppleing his father's place accompanied by the Barrones of Nithsdaille and Annandaille, where the lairds of Drumlanerick and Mouswald were slain with sundry other gentlemen. But yet the victorie remained with Scotland, for the Duke of Albanie was chased in England, and the Douglas taken by ane brother of the Laird of Ross, Kirkpatrick; for the whilk service he gott the lands of Kirkmichael, and ane great number of the army was either taken or slain; and though the Scott syde was glad of the victory, yett they were so sorrowful for the loss of the Master of Maxwell, their chiftane; for in mean tyme ther was ane Scottish limmar, named Gask, whose kinsman the Master of Maxwell hade caused hang be justice, seeing he was Steuart of Annandalle. This Gask in revenge of his wicked intentions thought it ane meit tyme and sticked the said Master behind his back, with ane lang whinger, as he was leaning and reposing himselfe on his sword hilt, being very evele hurt and wounded in the field before, and sun died ther."

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THE TRANSACTIONS

AND

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OF THE

DUMFRIESSHIRE AND GALLOWAY

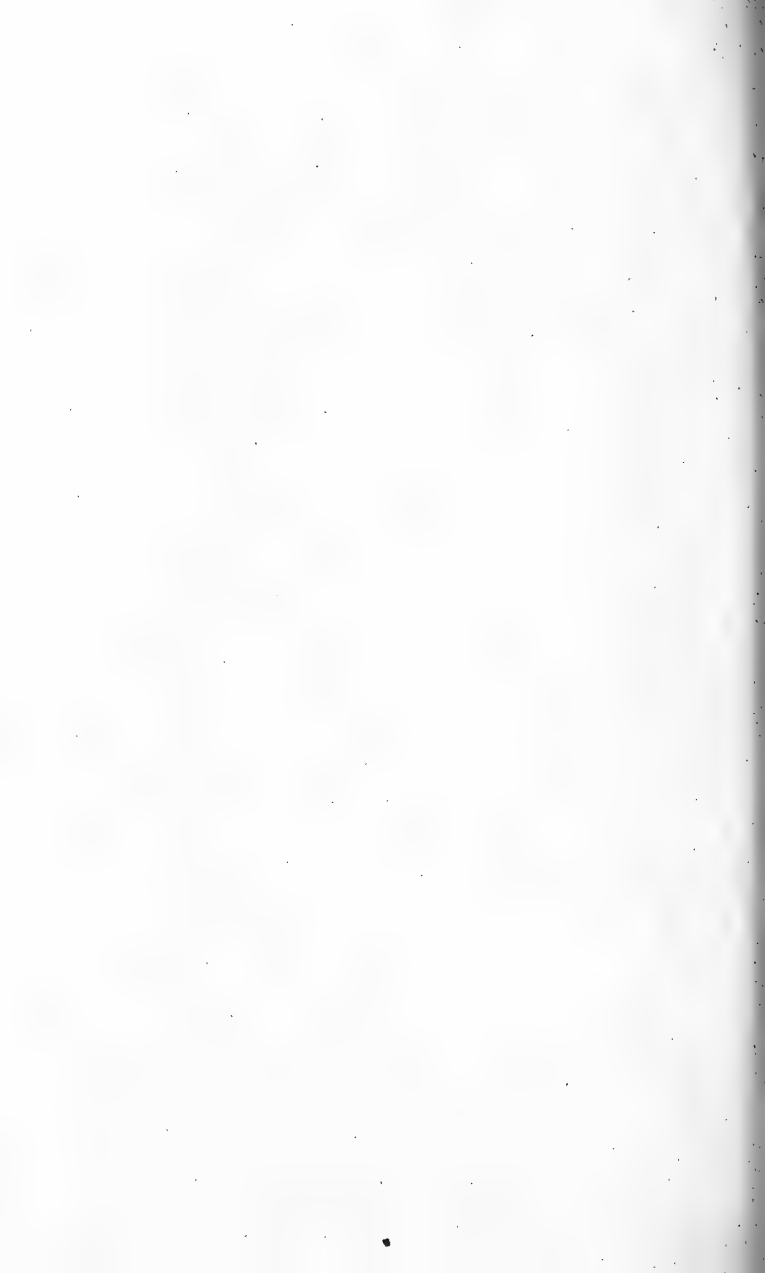
Natural History and Antiquarian Society

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SESSION 1903-1904.

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PROCEEDINGS AND TRANSACTIONS

OF THE

DUMFRIESSHIRE AND GALLOWAY

NATURAL HISTORY & ANTIQUARIAN SOCIETY.

SESSION 1903-4.

16th October, 1903.

ANNUAL MEETING.

Chairman—Mr G. F. SCOTT-ELLIOT, M.A., F.L.S., &c.

NEW MEMBER—Mr John Bell-Irving, Viaduct Hotel, Carlisle.

The Secretary and Treasurer read his annual report, which stated that 11 deaths and resignations had taken place, and that four new members had been admitted. The deficit on the publication of "Birrens and Its Antiquities," to reduce which Mr James Barbour had given £5, was carried to the debit of ordinary account, which showed a balance to credit of £45 2s 3d. The report was adopted, and a vote of thanks passed to Mr Barbour.

In accordance with the recommendation of Council, the following were appointed office-bearers for the session: President, Professor G. F. Scott-Elliot; Vice-Presidents, Mr R. Murray, Mr R. Service, Mr J. Barbour, and Dr J. Maxwell Ross; other Members of Council, Rev. J. Cairns, Dr Martin, Mr J. S. Thomson, Mr J. Davidson, Dr Semple, Mr S. Arnott, Mr W.

Dickie, Mr J. Tocher, Miss Hannay, Miss Cresswell; Librarians and Curators of Museum, Rev. W. Andson and Mr James Lennox; Curators of Herbarium, Professor Scott-Elliot and Miss Hannay; Secretary and Treasurer, Mr J. A. Moodie.

The general adoption of a tentative agreement between the Society and the Managing Committee of the Ewart Public Library, as submitted by the Council, was agreed to, with the condition that means be adopted by which members would be enabled to borrow the books and periodicals belonging to the Society.

TREES. By The PRESIDENT.

The word is a very ancient one, and characteristic of the Scandinavian group of families—Arbor of the Roman and Bann of the German. Trees may be regarded as the highest kind of vegetation, and they are the most highly developed type of plant. Here, however, there is a difficulty. How are we to judge development? In some senses wheat, or lilies, or other flowers might be considered on a better level of development. There are, however, two respects in which trees surpass all other plants. (1) They show a far greater division of labour and a specialisation of work unknown in lower organisms. (2) A tree is much more than any ordinary plant. It is like an empire, under whose shadow myriads of other organisms, animal as well as vegetable, are able to find shelter and profitable employment.

The way in which trees have developed is a specially interesting study. In the primordial ocean, seaweeds were probably the first to develop. They show extremely little specialisation, and there is very little difference in the structure of the cells composing the seaweed. One cell is much like another. They were also confined to wet places or water. Next probably come fungi and bacteria, whose office in the world is an important, though generally unpopular, one. To destroy the worn-out and unfit so that better types may take their places.

On dry land, in my own view, lichens or crotches were the first kind of vegetation and settled themselves on dry rocks or earth. Mosses came next, and amongst them there are tree-like forms. Yet all mosses are very small. They differ radically

from flowering plants in their being refreshed by the descending water of the rain. They cannot, like trees, raise water as sap within themselves.

The first appearance of anything like a tree seems to have been in old red sandstone times, when gigantic clubmosses belonging to the same class as our little clubmosses appeared. These were, however, very clumsy and uneconomical, considered as trees. Note especially how wasteful as regards the catching of light. Especially note the monotonous regularity both of foliage and branching. Yet types of this sort of tree are found not merely in clubmosses; many conifers show it, especially monkey-puzzle, *Araucaria*, *Thuja*, and some Australian veronicas. The weak point consists in the stem being covered by the leaf bases, and in the small size and simple shape of the leaves.

A very early type of plant is that called by botanists the "rosette," very familiar to us in the daisy and dandelion. This is found in the clubmoss group—*Phylloglossum*, in ferns, many bulbous plants, and in fact most of the monocotyledons. The stem is extremely short, the leaf bases cover the stem, but the leaves themselves are often large. In our common British dandelions and plantains, the circle of leaves is always close to the soil. Yet many of them live several years. In the dandelion the root regularly dies away, and contracts, or shortens so that the tuft or rosette is kept low. *Plantagos* have special roots which grow at a slant downwards. These roots contract or shorten, and haul down the rosette of leaves, so that they are kept in the most favourable position (close to the ground).

But, suppose this did not happen, let us imagine the stem to grow regularly every year, what would happen? The palm type of tree would be formed. A column slender and stately with a rosette or crown of leaves at the top. We find many trees of this type.

Tree fern, the cycad or sagopalm, and the tree palms. There are even dicotyledons of this type, but they are rare, and why? It is not the best type because the trunk is still covered by the leaf bases, and the area shaded is just the diameter of the one rosette or tuft of leaves. Thus the shade area depends on the size of the leaves, and cannot increase. The area shaded by a young plant will be very nearly the same as that covered by a veteran. Full advantage is not taken of its long standing.

The raphia palm has leaves 50 to 66 feet long and 36 feet broad, probably the largest leaves known, but even here you see the area shaded is only about 132 feet in diameter, which is not at all remarkable.

The regular tree type has been obtained by a simple development; by introducing internodes between the leaf bases, and by continuing to modify and alter the shape of the leaves. Thus a single column, as soon as it has lifted itself above the reach of grazing animals, can rapidly push out branches horizontally, and form a dense crown of foliage. Thus, once it has got a base for development, it can utilise its long standing in the fullest way possible.

Such a tree may be compared to an empire of living individuals. Not only so, but the life works of these individuals are as different as possible. I am on holiday just now, and I am not going to give a botanical lecture, but I should like for a moment to show how wonderfully the different offices are filled. The living units, the small cell with its protoplasm, are in their youth almost alike. Yet, as they develop and specialise, each takes its characteristic shape as it gets into its own particular line of work. The outside ones become cork, others in the bark produce the tannin, of which 4 per cent. is enough to prevent the growth of fungi. Thus the rabbit and the roe deer are kept off. Through an oak tree during five months of summer a current of water is always passing, entering by the roots and passing off by the leaves. About 250,000 lbs. weight of water passes through it in five months. The cells which absorb this water, the cells in the woody trunk, and the leaves show the most extraordinary finish in their adaptation to it. The pressure inside some of these cells is probably 200 lbs. to the square inch. Then again, the leaves regularly manufacture the sugar and other material. An oak leaf will have some 2,000,000 pores or stomata through which the carbonic acid hurries in. For every 1-500th of a pound of wood substance 1,000,000 litres of air has been freed of CO₂.

The sunlight falling on the tree is absorbed by the little green chlorophyll bodies in the leaf. In the trunk there are the wonderful storage arrangements by which sugars, fats, oils, everything made by the leaves, is retained within the stem for next year's buds.

Again the wind adaptations. Think of the stresses and strains in a forest tree in a gale of wind. Look at the heights of an *Eucalyptus amygdalus*, 456 feet, 120 feet above St. Paul's; mammoth tree, 426 feet; silver fir, 225; spruce, 180; Scotch fir, larch, and cypress, 159; yew, 45 feet. Even sunflowers may be 17 feet high in America. All this is arranged by the specialisation of the myriads of living and dead organisms which go to make up the tree.

Generally, it seems as if any one of these organisms had to do exactly what was best for the good of the whole tree, according to the position in which it has been placed. In which case our own societies and civilisations appear to be distinctly on an inferior level. Yet these little living units are often called upon to become something quite different. Supposing you cut into the tree. Those cells that are wounded are at once cut off from the rest. The nearest living cells are sacrificed; they are changed into cork, stoppered with gum, or sometimes with indiarubber, and the wound is promptly healed. A rampart of dead bodies is built up over the spot. But it is not only in themselves, but also as sheltering organisms that trees are important. On the bark of a tree we find seaweeds—pleurococcus. On the branches lichens and mosses. Most people consider these to be useless except to themselves. That is not so. Those low forms of life occupy spaces where light would be wasted, and their dead material falls eventually to the ground and manures it. They add to the valuable leaf mould regularly formed. The fungi on the ground are even more important, for it is by their fine insinuating and dissolving threads that all this dead material is broken up, modified and prepared for absorption by the trees again. The ferns, hyacinths, anemonies, the brambles, and rasps in the wood, all add to the efficiency of the wood which shelters them. The leaves are gradually broken up, and practically nothing once formed is ever lost.

Finally such woods usually fall under the axe of the lumberer. The wood itself is an essential; it is necessary for human civilisation. Seven acres of forest are required for a day's issue of one New York paper. The end may, we hope, justify the destruction. Then upon the site of this wood home-steads and fields of wheat, and oats, and barley are farmed.

20th November, 1903.

Chairman—Mr R. SERVICE, V.P.

EXHIBITS.—By Mr G. Irving, printed rules, dated 7th Oct., 1788, for the House of Correction in Dumfries. From Mr Service, shrubs in full flower, viz., Laurustinus, or strawberry tree, from garden at Portmary; common whin; Arbutus unedo.

I.—EDWARD I. AT SWEETHEART ABBEY. EXCERPT FROM A LETTER TO POPE BONIFACE VII. FROM ROBERT OF WINCHILSEY, ARCHBISHOP OF CANTERBURY. Dated Oxford, Oct. 8, 1300. Extracted from Annales Londoniensis; edited from the Lambeth MS. by Bishop Stubbs.

By Dr CHINNOCK.

“When at last, after careful enquiry, I heard that the same lord the King, with his army, returning towards the castle of Carlaverock, which he had previously taken, in Scotland, had pitched his camp near the new abbey of Sweetheart (Dulce Cor, or Douzquer), in Galloway, preferring to expose myself, my men, and my possession to danger rather than thus any longer to languish in such remote regions in a certain manner uninhabited, beyond my own diocese and province, I lurked in certain secret places near the sea, which divides England from Galloway, and taking the opportunity of the ebb of the tide, under the guidance of those who had a perfect knowledge where to cross, I made the passage in the course of four tides, with the horses and their trappings, there being great danger in entering and departing, not more by reason of the depth of the water than by reason of the shore and the quick-sands. On the next Friday after the feast of St. Bartholomew the apostle, which was already at last concluded, I came, as if unexpectedly, to the said King, who was then at dinner in the midst of his army. And because he said he could not find any leisure on that day, he informed me late on that day through two of the greater earls who were then attending him that he would be kind enough to hear me on the morrow, to wit, the Sabbath following. Therefore, the Sabbath day itself arriving, in the presence of the very devout young lord Edward, son of my lord

the King, in an assembly of a great number of earls, barons, and other knights of his army in attendance on my said lord the King, having read aloud your foresaid mandate transmitted to me, I presented to the same the letter of your holy paternity directed to my foresaid lord the King, having obtained the authority of the same. My lord the King himself received this letter respectfully, and caused it to be read publicly in the presence of all, and to be clearly explained in the French tongue. When this had been patiently heard by each and all, I encouraged myself, and urged in every way I could and knew, that he would obey respectfully in all things your exhortations in regard to what was set forth in the said letter. Afterwards I withdrew from him with my clergy at his command, while he deliberated on these things with his said chief men. At last he recalled me and answered me in the presence of the same, through an intermediary, in the following wise: 'My lord archbishop, you have made on the part of our superior and reverend father, the lord the Pope, a certain admonition touching the state and law of the kingdom of Scotland; but because the custom of the kingdom of England is that in matters touching the state of the same kingdom the counsel of all is required, whom the matter touches, and the present business of the kingdom of Scotland touches the state and law of the kingdom of England, and there are many bishops, earls, barons, and other chief men of the kingdom absent, who are not and have not been in this army, whom the said business touches, in whose absence it will not be possible to answer our said most high father or you finally; on this account our lord the King intends, upon the matters contained in the letter of the said father, as far as he shall be able conveniently, to consult in a body those who are absent as well as those who are now present, and to treat with the same with greater deliberation and to send a reply to the same most high Pontiff through his own ambassadors upon these things concerning the common counsel of the same.' This same answer indeed thus made in his presence and in his name my lord the King ratified and also expressly approved."

II.—HOW THE ROYAL BURGH OF ANNAN BUILT A BRIDGE. By
Mr JAMES BARBOUR, F.S.A. (Scot.).

The river Annan, at the town of that name, although a considerable stream, was not, so far as is known, spanned with a bridge until the beginning of the eighteenth century. For passage there was a ford, and the town owned a boat, which was farmed out as part of the burgh revenues. At fairs, ford-women attended, and bore over on their shoulders persons preferring their assistance. The science of bridge building appears to have reached a low level at the Border, as the first Annan bridge, built between 1700 and 1705, required to be rebuilt in 1720, and the latter gave place in 1824 to the existing fabric. This sketch is concerned with the earliest bridge, or rather the municipal management of the scheme, for the meagre and imperfect records of the Town Council and Burgh Court, the only source of information available, furnish no indication of the design—of the length, width, number of arches, or other details; there is just enough to prove that it was a stone-built structure. The circumstances out of which the scheme originated are obscure. The subject is introduced abruptly in a Burgh Court minute of 12th May, 1700, where it is said that several funds were set apart for the work. Their nature is not stated, but about this time a special item of income must have fallen to the town likely to be devoted to the bridge. Annan formally agreed to the project of the Commission of Royal Burghs to farm the customs and foreign excise of Scotland, and to her share of the profit therefrom was probably due the rise of the bridge scheme, just as Dumfries Midsteeple owed its existence to the same speculation. In proceeding to deal with the management of the scheme it will be convenient in the first place to introduce briefly the chief actors concerned; and the most potent personage in respect of social and political position and of influence relative to the bridge work is My Lord William, second Earl of Annandale, Provost of the burgh. Sir William Frazer, in "The Annandale Book of the Johnstones," represents the Earl, afterwards Marquis, as the greatest of his family, and as doing the country service in many high offices of State which he held. His lordship's connection with the burgh of Annan is not, however, alluded to; nevertheless the Earl was the occupant of the civic chair in the reign of six sovereigns. On 14th October, 1684, being then hardly 21 years of age, his lordship, when present at the Council meeting, was chosen Provost, and his characteristic signature, "Annandale," is appended to the minute. From this time, with the exception of two years' occupancy of his son, Lord James Johnstone, the Earl continued in office from year to year until his death in 1721. At home he was a Commissioner of Supply, Steward of the

Stewartry of Annandale, and patron of the Church of Annan, as well as Provost of the burgh. It might be conceived, considering the time and energy absorbed by the numerous important State offices he held, that the Earl's provostship would be of an honorary nature. The records prove the case to be otherwise. This most active and forceful nobleman dominated everything—the elections, and all the affairs and business of the town, acting himself or through his chamberlain. Frequently the election of the Council was deferred on his account, as in the following instance:—"The bailies, treasurer, dean, and Council are continued as formerly till such time as My Lord Annandale, Provost, be present at a new election or appoint one under His Lordship's hand when a new election should be, and no new Councillor be added without His Lordship's advice." In regard to other business, there are enactments that "the customs are to be uplifted by the bailies and treasurer till My Lord Annandale, Provost, ordains the said customs to be rouped, or be present himself, or his advice be taken thereanent; that the income from the common good is not to be disposed upon except My Lord Annandale, Provost, his consent be given and precepts under His Lordship's hand before disposing thereupon; and that persons who have had the common goods in time by past, with the Magistrates and their clerk, are to attend the Provost at Lochwood when called, and account therefor." The Earl, it should be explained, subsequently by a bond acquired the right of dealing with the customs of the burgh. William Whyte, who resided at Poldean, near Moffat, is the Earl's chamberlain. Second to the Provost is "Mr Matthias Partis of Tallentyre, Esquire, eldest bailie," an Englishman from Cumberland. Admitted a burghess of the burgh of Annan 1st October, 1694, and designated "merchant in Tallentyre," he was elected a Councillor 28th May, 1697, and advanced the same day to be senior bailie. With him was another Englishman, "Master John Woosley, merchant of London," who was admitted burghess 26th May, 1698, added to the Council 29th October the same year, and elected junior bailie 5th October, 1700. In partnership these gentlemen started a mercantile business, chiefly as importers of tobacco, at Annan, and appear to have been considered men of substance. John Johnstone of Gallabanks and John Irving of Gulliland, well-known Annan men, are bailies, and James Bryden is treasurer.

Passing to the history of the bridge, the minute of the Burgh Court of 12th May, 1700, already mentioned, has reference to the registration in the Court books of a contract, of which the tenor, abbreviated, follows:—

"It is contracted and agreed betwixt a noble and potent Earl, William Earl of Annandale and Hartfell, etc., Provost of Annan, with express advice and consent of the bailies, whole

Town Council, and community of the burgh, on the one part, and Mr Matthias Partis of Tallentyre on the other part, That is to say that forasmuch as the building of a bridge at the said town, over the river of Annan, is found may prove very advantageous to the place, and seeing several funds are designed for carrying on so good a work, which yet is thought not sufficient, Therefor it is agreed that the said Mr Matthias Partis shall immediately fall to work and employ, contract, and agree with workmen for building a bridge over the said river at the place designed, which is commonly called Tommies brae, and shall furnish all manner of materials, and lay out and disburse what money shall be contracted until the perfecting of the whole works. And in regard at present no liquid sum can be condescended upon, Therefore the said noble Earl, with the consent of the magistrates, council, and community, by these presents bind and oblige them that they shall give right and commission to the said Mr Matthias Partis to receive and uplift all manner of funds that may fall to the town for carrying on the said work. And further, that where the said funds fall short in the necessary expense They shall in ample manner assign to the said Matthias Partis the whole common good, town lands, and boat with customs, to be possessed by the said Matthias Partis until he be paid what sums of money he shall be found to disburse necessarily in the said work with the just and true interest thereof, etc. Written by William Whyte, servitor to the said noble Earl."

By this deed the senior bailie of the burgh was created trustee of the bridge affairs, with power to uplift and apply the funds, and to furnish any shortage, for the repayment of which the town's revenues were pledged to him in security. The contract proved hazardous to the town, as within five months of its registration the firm of Matthias Partis and John Woosley had become discredited through certain tobaccos imported to Annan by the firm being arrested for payment of dues. Thereafter the Earl of Annandale, as patron of the church of Annan, in granting a year's vacant stipend towards the building of the bridge, did not entrust Partis with the fund; John Irving, one of the bailies, was engaged to uplift the stipend and pay the same to John Lodiore, the builder of the bridge. It appears the church was vacant in 1700, 1701, and 1702. The stipend of each year was granted by the Earl towards the bridge work. The manse and outbuildings connected therewith were possessed by Partis and Woosley as tobacco stores. On 19th May, 1700, William Whyte gave in at the Burgh Court a commission by the Earl of Annandale for clearing of the accounts betwixt Mr Matthias Partis and the burgh anent the bridge, and whereby the said Earl declares his resolution to furnish what money may be wanting for the completion of the bridge, on the town's security.

The council accordingly "impegnorate" and engage the customs and meadows belonging to the burgh, until the Earl of Annandale be fully and completely reimbursed and paid. The Earl in this way possessed himself of Partis' contract, and the common good was from this time let from year to year by or with consent of the Earl's chamberlain.

The minute of the Burgh Court, dated 31st May, 1701, presents a clear view of the circumstances of the case of Partis anent the bridge, and shows the risk attending contracts with Englishmen, who were foreigners before the Union. Commission was given in, according to the minute, for the Earl of Annandale and Hartfell, etc., one of the Lords of His Majesty's most honourable Privy Council, and Steward of the Stewartry of Annandale:—"Forasmuch as it being represented to us by the bailies, council, and community of the burgh of Annan That Mr Matthias Partis and John Woosley, merchants in the said burgh, have uplifted and received these several years past the whole common good and money of the said burgh, which by indenture and contract they were obliged to employ in building a stone bridge over the river of Annan, and the said Mr Matthias Partis and Mr John Woosley, being Englishmen, are like to fail in the performing of their part of the said contract, and may as foreigners easily transport their effects and persons without giving count and reckoning, Therefore these give warrant and commission as we by these presents as one of His Majesty's Privy Council of this kingdom, and as Steward of Annandale, commissioner and appoint William Whyte, our servitor, to join with the present bailies of the said burgh, and state account of charge and discharge betwixt the town and the said Mr Partis and Woosley, and if any balance be found due to take sufficient security for payment of the same to us towards the perfecting of the said bridge, by us to be applied, and if Partis and Woosley fail these presents authorise the said William Whyte with the bailies to secure by arrestment all effects belonging to them, and detain the same within the burgh until count and payment be made. In witness whereof these presents (written by the said William Whyte) are subscribed at Lochwood this thirtieth day of May, 1701 years, before these witnesses, etc."

A burghess ticket on skin, bearing date 17th July, 1701, survives, although the minute from which it is extracted is lost. It is in favour of John Whyte, assistant to Tobio Bachup, builder in Alloway, whose advice might be sought in connection with the building of the bridge. Bachup subsequently contracted to erect the Midsteeple of Dumfries. As an example of the form in use at the time, a transcript of the ticket follows:—

"Annan Decimo Septimo die July anno domini Millesimo Septingentesimo imo and uno. In presentia honorabilium virorum

Gulielmi Marchionis de Annandaill and Consulis, Matthiæ Partis of Tallentyre, Joannis Johnston de Galabanks, Joannis Irving de Gulielands et Magistri Joannes Woosly Bailivorum, Gulielmi Hair decani Gildæ, Jacobi Brydon Thesaurary et caeterorum Concily dicti burghi. Quo Die Jounis Whyte servitor Tobio Bachup in Alloway fabro murario admissus et receptus fuit in municipen et fractrem Gildæ dicti burgi propter singularem favorem et Benevolentiam quibus dicti magistratus illum amplectuntur præstito per eundem Juramento S.D.N. Regi et dicto burgo solito. Extractum de liberis concily Dicti burgi per me scribam ejusdem subscribentem. "Geo. Blaire."

The Provost had been advanced to the dignity of Marquis, as the ticket bears, and in the records he is styled "High and mighty prince, William Marquis of Annandale," etc.

The Burgh Court books are much occupied with the registration of claims against the estate of Partis and Woosley. Great delay takes place in arriving at a settlement, notwithstanding frequent protestations that the tobaccos are in danger of perishing, being stored in bad cellars; but after the lapse of more than a year, at the end of 1702, an arrangement is come to. John Hallyburton, advocate, probably a descendant of the early Edinburgh banker of that name, and Clement Nicholson and Isaac Tallowfield, Englishmen, are authorised to roup the tobaccos lying at Annan in several cellars and in the manse and buildings belonging thereto, they undertaking to make payment to other creditors—to William Graham of Mossknowe, collector of customs, the sum of £40, he to give discharge in full of all claims from the beginning of the world to this day; to John Irving, surveyor, £140; and to Bailie John Irving, £100 worth of tobacco to satisfy himself and several others. It does not appear that anything was found to be owing to the bridge fund.

Money was scarce, and several times, contrary to use and wont, the customs, at the instance of the Marquis of Annandale, who, it is noted, has right by contract thereto, were roused for ready money, 3d November, 1702:—"The bailies and Council, taking into consideration the matter of the bridge, and finding that since the first day of June last the whole workmen are yet unpaid to this day, except only what has been advanced to them by William Whyte out of the vacant stipend of Annan for meal towards their maintenance this summer, and now winter approaching and several of the said workmen being to go to their several habitations, and that the Marquis of Annandale, his chamberlain, refuses to clear and pay up what is resting to the said workmen, pretending he has no order and warrant so to do, Therefore Mr William Johnstone, commissioner to Parliament, is to apply to the Marchionness of Annandale in my Lord's absence to grant order to pay the workmen for this summer's work, and also for keeping together as many workmen as may be need-

ful for the winter season, and also to represent that we are convinced the work cannot be perfected at the rate first agreed upon; the town willingly offers any further security they are capable to give; earnestly recommends that a speedy and effectual answer be given."

3d May, 1703.—An Act is passed in favour of the town-clerk in consideration of certain sums advanced by him for paying the workmen, masons, and barrowmen, working at the bridge their wages. The same day certain creditors of Partis and Woosley within the burgh agreed to lend £100 sterling of recovered money to the Council towards the bridge work, the burgh having come greatly in arrear.

1st November, 1703.—George Blain, collector, to receive collections for our bridge, has received from the Magistrates, Council, and community of the burgh of Dumfries the sum of £132 16s 6d Scots for helping to build our bridge, and which sum the said George Blain is to apply towards defraying the expense of the said bridge.

On the 9th of the same month the Marquis of Annandale gifted the vacant stipend of the year 1702, being the last contribution noted in the records, towards the bridge fund.

The let of the customs in November, 1704, provides that if an Act of Privy Council is obtained for an additional custom upon account of the bridge of Annan within the year the benefit is to accrue to the taxman; and in November, 1705, bridge custom is included in the let for the first time, not, however, by authority of the Privy Council, but by an Act of the Town Council. The bridge work had at last, it is presumed, reached completion.

The conditions of let of the customs vary according to circumstances, but always exhibit Border influence. In 1683 it is provided that the taxman shall pay, without defalcation, be it peace or war; next year the expression is, without defalcation either for peace or yet in time of war. The terms in 1705 are, that in case the prohibition upon linen cloth and cattle prohibiting the importation of them from Scotland into England be continued or allowed, or in case of open war betwixt the said kingdoms, or in case the Act of Council for the bridge customs be suspended by any merchant or others, the taxman shall have allowance therefor. After the Union it is conditioned that in case linen cloth or cattle be stopped from going into that part of Britain formerly called England, or in case of war betwixt this kingdom and any other so as trade be stopped, or should the bridge custom be suspended by any merchant or drover or otherwise, allowance is to be made therefor.

The dues were re-arranged 30th October, 1706, as follows:—"The which day it is statute enacted and ordained That the town and bridge customs of this burgh for the goods after-

mentioned shall be as follows, viz. :—For each cart-load of goods 12s, each wheel car load 6s, each corded pack of goods 3s, each load of goods 1s 6d, each horse 3s, each score of sheep or lambs 10s, each merchant's horse pack 1s 6d, each foot merchant's pack 6d. Item—All the heritors and wadsetters within the parish of Annan, each one for themselves and families, are to pay yearly for the benefit of the bridge at the custom thereof 12s for the whole year. Item—All tenants and others within the said parish 6s for the whole year. Item—Each bridal 12s, and each burial 12s (Scots money). The present Act is only to take place if My Lord Marquis of Annandale, our present Provost, authorise and approve of the same.

It is not surprising that the Council should hesitate. After imposing bridge dues without authority, they now propose to rate the whole parish. The Provost conserved his own interests and secured immunity from the customs of the burgh for his tenants.

22nd May, 1707.—The which day My Lord Marquis of Annandale, Provost, John and Robert Johnstones, Bailies, and Town Council of the said burgh, being in council convened. For the great and good services done by Mr Lord Marquis to the said burgh, They have enacted and hereby enact that My Lord Marquis' tenants within the parish of Annan shall be free of all custom for what goods they shall bring through the said burgh, and liberties thereof, that are the product of the said Marquis his lands as said is. (Signed) Annandale, etc.

With the Marquis of Annandale is bracketed the town of Dumfries as a recipient of favours. 20th June, 1707.—The which day the bailies and Council of the said burgh, being in council convened, and taking to their consideration the good services done by the good town of Dumfries to our burgh, have enacted and hereby enact that in all time coming the Magistrates, Council, merchants, burgesses, and inhabitants of the said burgh of Dumfries that bears scot and lot within the said burgh, shall only pay the sums after-mentioned as the customs for the town and bridge of the said burgh of Annan, viz. :—For each cart-load of goods 8s, each corded pack 3s, each horse load or fardel 1s 6d (Scots); and that the Magistrates and Town Council of the said burgh of Dumfries, a list whereof is to be given and subscribed yearly by the Magistrates and their clerk, are to be free of all customs, both men and horse, when they come or go end-long the said bridge of Annan in all time coming.

18th December, 1903.

Chairman.—Dr J. MAXWELL ROSS, Vice-President.

THE DIURNAL AND NOCTURNAL RAPTORIAL BIRDS OF THE SOLWAY AREA. By Mr ROBERT SERVICE.

THE EAGLES.

The identity of the species that formerly frequented so many eyries in Solway has been badly mixed up. A century ago there must have been pretty nearly a score of occupied nesting sites in Dumfriesshire and Galloway. Both species were undoubtedly present. Those at the head of Moffatdale and Annandale—some three eyries—may well have been Golden Eagles.

Old David Tweedie, in his day a famous anglers' guide on Tweedside, when interviewed in 1834, when he was in his 83rd year, is said to have stated:—

“That there is not one salmon, or trout, now for 20 that were found in his young days, that everything is changed, saving and excepting the glorious green hills of his native valley, that he perfectly recollects when there were just six pairs of Eagles in Moffat water—the shepherds keeping their numbers down to this mark.”

The very last of the resident Dumfriesshire Eagles (and it was a Golden Eagle, for I have seen the specimen) was brought down by a shepherd in a way which, so far as I know, is quite unique. On the farm of Gameshope, near to Loch Skene, one Eagle in particular got so bold as to lift lambs within 20 yards of the herd, a man named Bauldie Hairstanes. He could not stand this, even from an Eagle, which is not to be wondered at, and he used to carry stones in his plaid when going over the hill. One day in April, 1833, this herd was going his rounds, and the Eagle—probably having young in the cliffs above Loch Skene—swooped at the dogs. Bauldie threw a stone, which, very likely more by good luck than good guidance, struck the Eagle and brought it down to the ground, where, with the help of the dogs, it was secured. I question if a similar incident ever happened in this or any other country.

In Galloway Eagles nested till after 1850, and one (which

Sir H. Maxwell says is a White-tailed Eagle), taken from the nest about that time, was kept in captivity at Cairnsmore House, where it died only a couple of years ago. As I have already said, there is considerable confusion in local records and stories betwixt the two species, and the Osprey has also been confused with them. But the Golden Eagle, judging from specimens in existence, seems to have been by far the commoner. There was some 10 or 12 years ago an old man still alive in Dalmellington who as a youth swam to the islet in Loch Macaterick, and took the eaglets from the eyrie there so far back as 1812.

THE OSPREY.

The picturesque lochs of Galloway lost their finest ornament when the Fishing Eagle left their shores. Beyond any doubt it bred on the islets of Lochs Skerrow and Grannoch, and also on one or other of the Glenhead group of lochs, till about 1860—a year, or maybe two, sooner or later.

The birch tree on an islet on Loch Skerrow was still standing within the last 20 years, and I have spoken to several persons, not much older than myself, who had seen the big, bulky nest the birds built upon it.

Gray made a statement in "Birds of the West of Scotland" (and the same passage also appears in Gray and Anderson's "Birds of Ayrshire and Galloway") that it then had (that was under date of 1870) a frequented eyrie in Wigtownshire. He farther stated that it had then a nesting site in Kirkcudbrightshire. Not long before Gray's death Professor Newton was, I believe, in communication with him as to these statements, but could not obtain, I was told, any confirmatory evidence. The late Captain Clark Kennedy was Mr Gray's informant, and I tried also to get some data from him on the subject, but those who knew that gallant gentleman will not be surprised to hear that I failed. While I have no evidence against these statements of Gray's and Clark Kennedy's, there is considerable doubt that the Osprey really nested in Galloway more than perhaps a couple of years at most subsequent to 1860. I have questioned many persons who knew the lochs well as angling haunts, but I never succeeded in getting any tangible information. At the same time, several anglers have told me of having seen an occasional Osprey during these last thirty years. Of the

PEREGRINE FALCON

we have still a good many resident birds. Those who are familiar with the Colvend heughs will often have seen the couple, resident on those cliffs, dash out amongst the Herring Gulls there. Pairs are found in summer on several suitable parts of the Galloway coast. I believe there may be 8 to 12 pairs on the shore line. There are as many, perhaps more, on inland sites. In Dumfriesshire it is much scarcer, and there being no shore cliffs, it is confined to the Moffat hills and Upper Nithsdale near the Stewartry boundary. But there is an awful drain, year by year, by the keepers on these birds. It is curious how persistently birds turn up each recurring season to take the place of the slaughtered ones.

At the migration seasons some very fine examples are often got, more particularly in autumn, when "passage falcons" are seen now and then. These are mostly fine, large, dark, beautifully-plumaged birds in the feather of the first autumn.

Altogether, the Peregrine is by no means a rare bird, and is to be noted in most of at least one's longer rambles. On a recent date, when on the wide sands west of Southernness Point, along with some friends, we heard a faint call, that after some discussion we assigned to the Peregrine. But we could not see it anywhere around. The calls being repeated, we located them from skywards, and, putting the binoculars on, we found three specks high in air. We considered the birds to be one old and two young, and we watched them for nearly half an hour go through a pretty set of aerial manœuvres. A systematic search with the glasses will often reveal a Peregrine high in the heavens, and it is a most charming sight to see this finest of all the Falcons pursuing its strong and rapid flight in those wide circles it seems to delight in.

We now come to the Peregrine's miniature, the active and beautiful little

HOBBY.

Up till the last week or two there was only one good record of the Hobby in Solway—a specimen shot on Rockhall in 1866, not in 1867, as Gray has it. The other record I have referred to is a Hobby shot near Carsethorn, and now preserved in the nice little collection of local birds preserved by Mr Robert M'Call there.

Gray states that Totenham Lee shot two and saw a third on Glenlee in 1853, but I do not care to accept the statement.

We next come to one of the most interesting Raptores on our list,

THE MERLIN.

In the breeding season it is rather local. It nests pretty freely on the Upper Nithsdale moors, but seems scarce and casual elsewhere in Dumfriesshire. In Galloway it is partial to moorlands near the shore during summer. During the autumn months it is a comparatively numerous species, and is then of general distribution throughout Solway. At that time its splendid speed and supreme mastery of the power of flight make it an object of much interest to the field ornithologist.

THE KESTREL

still holds its own wonderfully well, and I verily believe that even gamekeepers are beginning to doubt if a Falcon, after all, may be entirely evil. It is a scheduled species, and well deserves all the protection that can be given it. I have often observed the nests of this bird on the sheep farms of Nithsdale and Annandale, and noticed how in these districts the pellets, or castings, which, as you know, all the Raptorial birds disgorge, being the indigestible parts of their meals, are often largely, and sometimes entirely, composed of the rejectamenta of the Spring Dorbeetle. During the vole plague the Kestrels were augmented in numbers to an enormous extent, and they seemed to suffer similarly, but to a considerably less degree, from the same cause that killed off so many of the Short-eared Owls.

[THE GOSHAWK]

[comes next, and following the admirable method adopted by Mr Harvie Brown, the Goshawk as a Solway species must be kept within "square brackets." The bird is mentioned twice in the "New Statistical Account" as a nesting species on the Ross and Muncraig heughs, near Kirkcudbright. These are at present, or were very recently, both stations of the Peregrine Falcon. The name "Goshawk" used to be often applied to the Peregrine in Galloway, where it is quite a common habit to misname things. Then we have the story first set down by Totenham Lee, jun., to Robert Gray, which I may be allowed to give in the latter

gentleman's own words, that I quote from "Birds of the West of Scotland," p. 37:—"Within a comparatively recent period I have known the Goshawk to breed in Kirkcudbrightshire, in which district my correspondent, Mr Totenham Lee, jun., who was quite familiar with all the British Birds of Prey, repeatedly saw the birds flying about. Under the observation of that gentleman, a pair of Ravens were turned out of their nest by two Goshawks, who appropriated it to their own use, and a second nest built not far from this locality was situated in a tree." Thus far Gray's narrative, which was penned, or at least published, in 1871. But the incidents described had happened about 18 years previously. At that time Mr Lee was a very young man, and his sporting rambles were under the tutelage of Gilbert Anderson, the keeper on Glenlee, whom I knew well, and who died only last year, almost a nonagenarian. With Anderson I have discussed and rediscussed the Goshawk story over and over again. The birds were Peregrines, or, as old Gilbert preferred to call them, "Game Hawks!" He told me some folks always called the Peregrines "Goshawks," but the real Goshawk he had never seen alive!]

THE SPARROW HAWK.

This is by far the most abundant of all our remaining Birds of Prey, and no other species come so regularly under observation. During the months when the autumn migration is going on this hawk is most in evidence, and it is during that period of very regular and evenly distributed abundance. The word "abundance" is in this connection a comparative term. From the very nature of the case, birds of prey, of any British species, in ordinary circumstances, can never be more than widely scattered points, or in the breeding season, small and very isolated family parties.

During winter, also, but becoming scarcer as the season advances, Sparrow Hawks are not at all uncommon. With the spring migration a sudden accession of numbers takes place, most of the birds passing onwards—northwards or eastwards. As a summer resident the species has become greatly reduced in number, and although a nest is still no rarity, it is not nearly so common as formerly. There can be little question that since the modern form of game preserving set in, now some 70 or 80 years ago, the resident, or breeding, stock of Sparrow Hawks has been destroyed

outright at least half a dozen times over. The places, or beats, of the birds thus killed are filled again each season by arrivals from other parts of the western range of the species. This process, however, cannot go on for ever, and it is showing signs of coming to an end. Like other members of our fauna, subjected to like cruel treatment, continued persecution is bound to finally banish the Sparrow Hawk.

THE KITE

may have been, and probably was, a resident at one period. But I have never been able to glean a single authentic note on its former existence. It is occasionally reported as seen, the fork in the tail leading sanguine observers to think they have identified it.

THE COMMON BUZZARD,

although not by any means justified in its trivial name, now-a-days, is still happily not rare in the Stewartry. I hardly think it breeds in Dumfriesshire or Wigtownshire, but it does so in several localities in Kirkcudbrightshire. In the south of the county one pair had their nest on a tree in late years, but in the hill country they breed on cliffs. The last time I was in the neighbourhood of Loch Dungeon I saw no fewer than three on the wing at one time, flying in wide circles over the Carlin's Cairn. One was shot in Eskdale a short time ago, and another frequented a locality not more than three miles from this hall most of last winter. Almost every year a few examples are killed during the autumn migration.

THE ROUGH-LEGGED BUZZARD

is a species that, so far at least as Solway is concerned, can only be regarded as a casual winter migrant. We have had in my own experience three immigrations. The first was in the autumn of 1875, just at the start off of the vole plague of 1875-76. There was another in the autumn of 1880, since when, until the present season, I have not heard of it with us. On each of the two first described immigrations from a dozen to a score of specimens were recorded. No doubt as many more were taken and no record made of the fact. Those I saw were most remarkable for the range of colour in the plumage shown by the various examples. Some were very fine dark—almost black—birds, while others were very light. MacGillivray states that one

he examined that had been shot in Dumfriesshire in 1840 "had a great number of young feathers of a blackish brown colour, and would have been entirely of that tint had the moult been completed." The current immigration, going on at present, promises to be a remarkable one. So far as I have heard, a bird got near Tarff, another on Auchencheyne, and a third shot on Glengaber, are the only local occurrences yet, but they seem to have been seen all over the British Islands, and quite abundantly along the eastern seaboard.

THE HONEY BUZZARD.

In the "Dumfries Courier" of June 11, 1833, I find a paragraph which states:—"A specimen of that very rare and elegant species, the Honey Buzzard, was shot last week at Drumlanrig. . . . The specimen has been added to the collection of Mr Bushnan of this place."

MacGillivray records the same bird.

Mr Richard Bell of Castle O'er, in the course of a valuable paper, entitled "Rare Birds in Eskdale," read at this table on April 17, 1901, stated that a Honey Buzzard was shot by his brother in the year 1850. Robert Gray says, with reference to probably only these two instances, that "specimens have been shot in Dumfriesshire on several occasions."

On 17th January, 1901, Mr Jardine, farmer in Waterside of Troqueer, caught a very beautiful Honey Buzzard by the side of his sheep fold in the dusk of a dark morning. It was kept captive for three weeks, and died. I saw the bird, which was in splendid feather and condition, and it was remarkably tame. It is hard to give a reason for finding this bird here on a date when it should have been away in Africa under the Tropic of Cancer. Winter occurrences are not quite unknown in Britain, and, like the Land Rail, the Blackcap Warbler, and some other migrants, the Honey Buzzard may find no great difficulty in prolonging its stay when circumstances are favourable.

THE HARRIERS

may fittingly be taken together, since none of the three is resident with us now. The Marsh Harrier was probably always a rarity in Solway. The older records treat it as such, and in my own experience I have met with only one individual, and that was from Kirkmichael on 7th May, 1898. On the other hand, the

Hen Harrier seems to have been quite abundant till shortly after game preserving set in. Even yet an odd bird or two (I heard of one in Kirkbean in October) turns up occasionally, mostly at the migration seasons. There are about half a dozen instances of the occurrence of Montagu's Harrier. One was a specially interesting case, as the bird, a fine female, caught on Cairnsmore of Fleet, had beyond doubt been sitting on eggs. The date was June 15th, 1881.

This brings me to the end of the Diurnal Raptors, and I now turn to the Nocturnal section, beginning with

THE BARN OWL.

Somehow, I always think of this bird in connection with one peculiar habit it has. This is the power of emitting, at extremely infrequent intervals, a most appalling shriek, calculated to lift the hair on the baldest head, if the listener happens to be unaware of the source from whence the frightful scream proceeds. At the dead hour of night, breaking in on the stillness, with a suddenness which is often startling, even to those who have heard it before, this uncanny sound may well give rise to any amount of belief in warlocks and witches. Except for this wild expression of disgust with the world itself, and a few grotesque incoherences in the way of hissings, nasal whistling, and snores, the Barn Owl is voiceless, for, if it hoots at all, it must do so very rarely. Sir W. Jardine, however, states in a footnote to his edition of Selborne that "this species DOES hoot, for I have shot them in the act. They also hiss and scream, but at night, when not alarmed, hooting is the general cry."

Frequenting buildings, new and old, only seldom resorting to hollow trees and rock faces, this species is to most people fully more familiar (in the preserved form) than the three other Owls that are resident with us. Its pretty contrasted colours of pale buff and yellow, with an intricate tracery of delicate greys and browns, and the purity of its white underparts, render it a desirable addition to the orthodox case of "stuffed" birds. Perhaps no other bird figures so often and so prominently as an ornament for the parlour window-sill, or as one of the occupants that gaze with glassy eyes and a never ending stare from the case on the lobby table. Everyone to his, or her, taste. Barbarian habits die out slowly. The stuffing of Barn Owls is a barbarous

taste, only less vile than that of using this poor bird's skin as the centre-piece of a drawing-room hand-screen. After all, such fate as falls to the lot of those that are "stuffed" is not so ignoble as that of the great army of Barn Owls which annually become victims to the misguided zeal of the game preserver. Not much can really be laid to the charge of any of the Owls, and nothing at all may be truly alleged against this particular species so far as the interests of game, real and supposed, are concerned. The legions of mice, voles, and rats that almost entirely constitute the food of the Barn Owl would surely work havoc incalculable were they not destroyed in the quiet, remorselessly unceasing way that few people, except the vigilant field ornithologist, has any idea of. The three County Councils that preside over the faunal region of Solway never did wiser actions than when they included this and the other Owls in the protected schedules.

The Barn Owl is the most ghost-like of all the Owls in its flight. Let me not be understood as likening the movements of this bird to that of the spirits of darkness in any other than a conventional sense. It hovers, and turns, and quarters its beat on noiseless wings, and the pale colour gleams out against the dark background of the woods, as it flits in and out of the changing and uncertain twilight of the summer evening.

An old and most respectable school of naturalists taught that the innumerable instances of means to definite ends were designed directly by the Creator. A younger, and, let it be said, less reverential, generation insists that Nature herself has evolved all these beautiful designs by the automatic working of natural laws. Of course the argument, well founded as it may be, only puts the First Cause a step farther back.

Amongst these appliances for equipping their owners to take part in the great struggle for life, the feathering and structure of the Owls must surely be reckoned as amongst the most perfect. Examine the exquisite series of fringes along the edges of the feathers. Feel how soft and fluffy is the plumage. Note the largeness of the eyes, adapted for collecting every ray of light. See what a great cavity in the large head is occupied by the ear, wide enough to catch the faintest rustle of the creeping vole in the grass. Look at the powerful talons and the strength of beak, and if your examination has been conducted intelligently you will

realise what a magnificent engine for a specific purpose is before you.

Barn Owls are not nearly so common with us in Solway as was once the case. Close observers of the bird are agreed that throughout Great Britain this species is decreasing sadly in some parts, while in none is it doing more than holding its own. While persecution by game preservers is, of course, mainly to blame, still a strong agency for its decline will probably be found in some, as yet, mysterious modification of climate. With us, I am pretty certain, there has been a marked withdrawal towards the warmer, sea coast districts, just as it has been with the House Martins.

Now-a-days the Barn Owl is oftenest seen along the cliffy parts of the Galloway shore. Here it frequents the caverns and crannies in the rocks, where nests may be found from April to September. Of late years rats have become far more plentiful than was formerly the case, and these nasty rodents positively swarm along the coast, feeding on mollusks and garbage of all kinds that is so often strewn along the tide line. Late in the gloaming the Barn Owls may often be observed working along the wrack and pouncing down on a rat every here and there. The unfortunate quadruped has barely time to squeak before it is borne off, a dangling corpse, to the nestful of snoring, spluttering youngsters up in the cliff.

The second species of Owl that comes under notice is the

BROWN OWL.

If I were asked to name the voice amongst the birds that we should miss most if birds and their notes were to be entirely eliminated from sight and sound, after the entrancing double note of the Cuckoo, I should unreservedly place that of the Brown Owl. What a grand thing it is to hear the hooting of the Owls repeated, and replied to, from different directions, on a quiet night!

This Owl is our commonest species, and is decidedly increasing. It is one of the protected birds, and, apart from the fact, general public opinion is against its slaughter, while on many estates it is very rigidly ensured against the desire of the keepers to slay it.

In autumn and spring many migrant Brown Owls pass through our area, amongst which an occasional fine example in the interesting grey phase of plumage may be distinguished. So far as my experience goes, this grey phase of plumage has no representatives with us as breeding birds. They are, I believe, all migrants passing through the district, and are found usually in the late autumn months.

The other day I happened to be reading a novel—an occupation, I am bound to explain, that I very rarely indulge in. The scene of the part I was perusing was laid in Galloway, and the following passage attracted my attention:—"An owl hooted, but presently the bird itself passed close to him with a soft woof of feathers, and a glint of a face like a white mask." Now, the Barn Owl has a white face, but does not hoot; the Brown Owl hoots, and hoots prodigiously, but its face is not white. So there is considerable ambiguity about the exact species. In any case none of our resident Owls emit any sound whatever from their wings in flight. It is absolutely noiseless, although the motion of the air is easily felt as they pass. I have had all the species pass within a foot or two of me, and I have kept all of them, except the Short-eared, in captivity. We should really expect a little more scientific precision of expression from one like Mr Crockett, who is both an M.B.O.U. and a great writer.

THE LONG-EARED OWL

is, I think, the prettiest of all the British Owls. Its more slender form, better carriage, and the distinguishing length of its ear tufts, give it a fine appearance. Coming out well before twilight has ended, and sitting as it does on some quite conspicuous position about the tree tops, or flying in short flights from tree to tree, it is in consequence fully more interesting in these respects than its congeners. While not exactly a gregarious bird, yet there is a strong tendency to a form of company keeping, for in favourable circumstances two, or sometimes three, pairs may be found in tolerably close proximity. Throughout Solway it is quite as numerous as the Brown Owl, but is strictly confined to the woodland districts, and is not found either on the hills or along the cliffs of the shore.

During the migration seasons it is occasionally quite common.

THE SHORT-EARED OWL.

The status of this species in normal circumstances is that only a pair or two remain to breed with us. Still, they are always present. It must not be forgotten that almost the first good account of the breeding of the Short-eared Owl in Great Britain was given by Sir William Jardine from observations made at the head of the Water of Dryfe, almost 70 years ago. The vole plague of 1875-76 saw a big movement of these Owls, and they were accompanied by Rough-legged Buzzards, while the plague of 1890 and subsequent years brought an altogether marvellous immigration. In Dumfriesshire alone not less than 500 pairs of breeding birds were estimated as present. Probably there were three or four times that number on the vole-infested farms. I have elsewhere told how these grand birds commenced to nest in February, and continued nesting without intermission till September; how 10 and 12 eggs were the usual number in a clutch; and with what avidity and untiring vigilance the voles were pursued during every one of the hours of day and night. It was a never-to-be-forgotten experience to see on mile after mile of the moorlands always a dozen or more of them in sight at once. One farmer of my acquaintance counted 36 sitting in a row on a hillock in Carsphairn on a summer afternoon. The finest sight of all was when at midsummer of 1892 I had a chance of going along the hills at midnight. The night was bright and clear, and very still. The Owls were on all sides, flying like no other birds I ever saw. The voles were scurrying hither and thither, squeaking and rustling as one stepped over and amongst them. The unfeathered owlets had left their nests, and were sitting blinking their eyes and contorting their bodies in groups on almost every little hillock. The parents never troubled to alight amongst their offspring—they simply flew past, and flung the dead voles at their young in the byegone. It was a weird and impressive bit of bird life, one my poor powers of description cannot do justice to.

As you may remember, the great vole plague came to a very sudden termination, and the destroying angels in the shape of Short-eared Owls died too in hundreds, being picked up everywhere in the last stages of emaciation. "Died of hunger" was the general verdict, but I believe this was quite wrong. Died of

disease incurred through eating the diseased voles is, I fancy, the true reason .

Lastly,

THE SNOWY OWL.

In every sense of the word, a fine bird indeed. For Solway I have only a couple of authenticated occurrences. Mr Rimmer of Dalawoodie told me he saw one sitting on a tree in the park at Kirkmichael in the winter of 1860-61.

A few years ago a specimen was shot on the Dumfriesshire bank of the Esk. The late Rev. H. A. Macpherson fully informed me of the occurrence in his usual kind way, but at the present moment I have mislaid the note and cannot, therefore, give any further particulars.

19th February, 1904.

Chairman—Mr R. SERVICE, Vice-President.

NEW MEMBER.—Miss M'Connell, Milnhead, Kirkmahoe.

EXHIBIT.—Collection of Rock-forming Minerals, from Professor Burns, Andersonian Institute, Glasgow, who was accorded a hearty vote of thanks.

FAIR MAIDS OF FEBRUARY. THE SNOWDROP: ITS HISTORY, LITERATURE, AND BOTANY. By Mr S. ARNOTT.

In the popular name of the Snowdrops, selected for the title of this paper, there is perpetuated the memory of the procession of maidens who, on the feast of the purification, paid their vows to the Virgin on Candelmas day, a celebration which will be referred to a little later. According to Dr Prior, the still more familiar popular name of "Snowdrop" is not derived, as many suppose, either from the resemblance of the flower to a drop of frozen snow or from its flowering, as a rule, in the time when snow is on the ground. It is probably only the German *Schneetropf*, and originates from the resemblance of the form of the flower to that of an ear-drop or the ornaments which ladies have at various times had suspended from their brooches and

other articles of jewellery. The botanical name of *Galanthus*, literally "Milkflower," is derived from *gala*, milk, and *anthos*, a flower—quite an appropriate name, and justified by the colour of the blossom, which is not that of snow, but more akin to that of milk, as may be observed if the Snowdrop is seen in the midst of snow.

HISTORY.

The question of whether the Snowdrop is a plant indigenous to our islands has received some consideration from botanists, but the general opinion is adverse, although Hooker, in the "Student's Flora," says 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 generations.

It is found in Central and Southern Europe from the Pyrenees to the Caucasus, where it is, to all appearance, a native. The Mediterranean regions, the Bosphorus, and the Black Sea, with Asia Minor, appear to be its headquarters, and it is probably there that we may find its original progenitor has appeared.

LITERATURE.

Of course, we cannot tell how long the Snowdrop has been a flower admired by men and women. It has probably been a favourite through all ages, though it is comparatively lately that we have become acquainted with its various forms, and the diversity which exists among them. The earliest known figure of a Snowdrop occurs in a work of L'Obel, named "*Stirpium Historia*," published in Antwerp in 1576. The figure is that of the common Snowdrop, *Galanthus nivalis*. The English herbalist, Gerarde, uses the same figure in his work of 1597, and supplements it with a larger one, which is supposed to be a drawing of either *Galanthus Imperati*, a large form of *Galanthus nivalis*, or *Galanthus plicatus*. In 1611 Clusius in his "*Historia*" gave the same figures, and added the information that the large Snowdrop came to Europe by way of Constantinople. It was thus familiar to the authors of herbals and similar works in early days, and we find it spoken of by Evelyn as the "Snowflower," while it appeared in other old writers as the lesser "Bulbous Violet."

Its legendary history is fairly well known to a few interested in the flower; although, one fears, it will hardly be accepted as authentic in these critical days. The more common legend regarding its origin has a few trifling variations, but the following may be considered a good example of the legendary treatment of the origin of the Snowdrop. I have no idea of its antiquity, but it is curious to note regarding its statement that the Snowdrop was not created until after the expulsion from Eden, that John Parkinson, whose "Paradisus" appeared in 1656, gives as its frontispiece an illustration of Adam and Eve in the garden of Eden, and shows in this several plants well known to us, and at least one purely fabulous—the "Vegetable Lamb." He omits, however, the *Galanthus*, and it is possibly owing to the existence of the legend in his day.

The story runs thus:—After our first parents were driven out of Paradise, Eve, it is said, was mourning over the barren earth, and the driving snow kept falling, to form, as it were, a pall for the earth's funeral after the fall of man. An angel was sent to comfort Eve, and, while bringing her a message of comfort, he caught a flake of falling snow, and, breathing on it, bade it take a form, and bud and blow. Before the snowflake reached the earth it was suddenly transformed into a lovely plant, which Eve prized far more than other flowers she had seen in Paradise, for the angel said to her:—

"This is an earnest, Eve, to thee,
That sun and summer soon shall be."

The angel's mission being completed, he took his flight to heaven, but where he had stood on earth there appeared a ring of snowdrops. Another legend, which, by the way, I found in a charming little book for children, called "Alexis and his Flowers," written by Miss Beatrix Cresswell, and prettily illustrated by Miss H. Cresswell, of Nunholm House, Dumfries, gives a different story, but one teaching the same lesson of hope. It tells that Hope was weeping over the death of nature in the cold winter time, and where her tears fell they melted the snow, and snowdrops sprang up; henceforth they have been the flowers of Hope. Trivial as these legends may appear, they are valuable to students of folk-lore, and to all who can appreciate how such simple things as flowers appeal to the higher and deeper thoughts of men and women.

From its purity and grace the Snowdrop has ever been associated with the virtues ascribed to the Virgin Mary. As such it was dedicated to her, and on the day of the Purification—Candlemas Day—February 2, old style, the image of the Virgin was taken from the altar and Snowdrops placed upon it. The young maidens walked in procession to the churches on that day, clad in white, and the flowers thus acquired the name of “Fair Maids of February,” one which is descriptive of the purity, grace, and charming beauty of the Snowdrop as we know it still. In the old metrical rendering of the Church’s Calendar of English flowers we find it said that:—

“The Snowdrop, in purest white arraie,
First rears her hedde on Candlemass daie.”

and it still remains the appropriate flower for the red letter day of the second of February.

There are few superstitions attached to the Snowdrop, so far as one has been able to discover, the only one appearing to be that it is unlucky to bring a single Snowdrop into a house. This is alleged to be owing to the resemblance of the flower to a shroud.

POETRY.

The older poets leave the “Fair Maids of February” unmentioned in their verses. One cannot but think that this is a witness to the theory that the plant is of comparatively recent introduction to our island. Shakespeare, whose wealth of allusion to plants is remarkably great, makes no mention of it, and when the great Bard of Avon, who was such an observer of such things, says nothing about it, we must expect to see little mention of the Snowdrop for some time after his day. Even in more recent times it was largely left to the minor poets to portray the flower in those words which poesy alone can use with such skill. There are now, however, many references to the Snowdrop by the poets, and one can only touch upon a few of these, as illustrations of the more æsthetic side of our subject, ere we enter upon the more abstruse one of its botanical characters. These are selected more from a desire to give a representative character to the quotations than with a view to discriminate among them from a literary point of view. None of the poets have touched more aptly upon the characteristic thoughts of the Snowdrop than Tennyson, when he tells of his

white-robed nun, who, on St. Agnes Eve, stands watching, as she says:—

“The shadows of the convent towers
Slant down the snowy sward,
Still creeping with the creeping hours
That lead me to my Lord.

Make Thou my spirit pure and clear
As are the frosty skies,
Or this first Snowdrop of the year
That in my bosom lies.”

It seems a little ungrateful to the poet to mention that it is the snowflake, or *Leucojum*, which is more appropriately the flower of St. Agnes. Then one cannot but rejoice with Tennyson when he gives us the following lines:—

“Many, many welcomes
February fair-maid,
Ever as of old time,
Solitary firstling,
Coming in the cold time,
Prophet of the gay time,
Prophet of the May time,
Prophet of the roses,
Many, many welcomes
February fair-maid!”

With a like note of cheerfulness Lewis Morris has written these lines of the flower:—

“And as I went
Across the lightening fields, upon a bank
I saw a single Snowdrop glance, and bring
Promise of spring.”

Bringing us other aspects of the Snowdrop, Wordsworth gives us some references to the flower, among which we may quote two, as representing it in different, yet allied, associations. In the first we have the flower exposed to one of the early storms of the year. The flowers are—

“Frail Snowdrops that together cling,
And nod their helmets, smitten by the wing
Of many a furious whirl-blast sweeping by.”

Here is another:—

“Chaste Snowdrop, venturous harbinger of spring,
And pensive monitor of fleeting years.”

One of the most striking references to the flower among the poets is to be found in some lines by Robert Buchanan, who says:—

“ Could you understand
One who was wild as if he found a mine
Of golden guineas, when he noticed first
The soft green streaks in a Snowdrop’s inner leaves?”

Here is another note—this time by Mrs Browning—and instinct with that feeling which comes to those who have been sufferers themselves. It is:—

“ The poor sad Snowdrop—growing between drifts,
Mysterious medium ’twixt the plants and frost,
So faint with winter while so quick with spring,
And doubtful if to thaw itself away
With that snow near it.”

Everyone knows the following from Thomson’s “Seasons”:—

“ Fair-handed spring unbosoms every grace;
Throws out the Snowdrop and the Crocus first.”

These are only a few among the now numerous references in the poets to the Snowdrop, and one would gladly have culled a few more from a bouquet of such flowers of poesy had it not been that the botany of the flower will require all the further time available. I had intended to illustrate this section of the subject with some living specimens of the leading species of *Galanthus*, but having to leave home before the flowers were all open, I can only furnish a few imperfect, because not fully developed specimens, and some of these are not yet far enough forward to enable anyone to form a true idea of their characters.

THE BOTANY OF THE SNOWDROP.

While the late Dean Herbert and other botanists did not fail to study the Snowdrop in a systematic way, and the former in his monograph of the “*Amaryllideæ*” treated of the few plants of the genus known to him, it has been reserved to later botanists to deal with the genus *Galanthus* in a more thorough manner. Mr J. G. Baker has done yeoman service in this way in his “*Handbook of the Amaryllideæ*,” and in recent descriptions of the newer species in various periodicals, but the Royal Horticultural Society’s action in holding a conference on Snowdrops in 1891, brought the study of the flower to a height never before reached. At that conference a brilliant synopsis of the Snowdrop

was given by Mr F. W. Burbidge, M.A., the Curator of Trinity College Botanic Gardens, Dublin. I must draw largely from his work, supplemented by what has been discovered since the date of that conference, and by my own observation of all the species but one in my own garden, besides the cultivation of a number of the hybrids and seedling varieties. Mr Burbidge's arrangement in 1891 was founded upon the character of the leaves, and, although Mr Baker puts more stress upon the green markings upon the flowers as a guide to the systematic arrangement, I cannot but hold that Mr Burbidge's is the more satisfactory division of the main groups.

Mr Burbidge classed the Snowdrops as:—1. Those with narrow, glaucous leaves, such as those of our common Snowdrop, *G. nivalis*. 2. Those with broadly plaited glaucescent leaf, such as *G. plicatus*. 3. Those with broad lorate green leaves, such as *G. latifolius*.

Those who have studied the flowers in growth are disposed to agree with Mr Burbidge in thinking that these three species may be said to be the backbone of the genus, and that all others are either variations or hybrids of these three. I shall return to the leaves again, after beginning with what is the proper and most symmetrical starting point—the bulb.

The bulb of the Snowdrop is what is known as a true bulb, as distinguished from a cormous or other form of root, by being composed of a number of scales united together. Like the leaves, the bulbs of Snowdrops group themselves into three divisions, which may be readily distinguished when in bulk by their form. Thus *Galanthus nivalis* has ovoidal, or egg-shaped bulbs; *G. plicatus* has rhomboidal, or short-spindle shaped ones; and *G. Elwesii* has rounded, or, sometimes, oblate spheroidal ones. They are all variable in size, so that it is hardly safe to state the dimensions to which they grow.

If a section of a Snowdrop bulb is made, it will be found that it is composed of the swollen bases or petioles of two, three, or more of its former leaves, arranged eccentrically around the new growth. The inner faces of two of these scales are fluted in a pretty manner, and covered with a fine membrane.

The leaves have already been referred to, and it is unnecessary to say much more about them at present, especially as we shall have to touch upon them in speaking of the various species.

It may be said, however, that the leaves of *G. plicatus* are the most distinct, because of the manner in which the margin is folded back. I regret that I have no specimens far enough advanced to show this as it ought to be done to give an idea of the true character of the leaves of this Snowdrop.

The scape, or flower stem, unlike that of the *Narcissi*, which belong to the same natural order—the “*Amaryllideæ*”—is solid and not hollow. It is elliptical in section, and fluted, and that of *G. nivalis* is only about half the thickness of the greater number of the other species.

At the top of this are the two spathe-valves, which serve the important purpose of protecting the flower ere it emerges. They are connected by a clear satin-like membrane, which in most Snowdrops bursts open on one side only, but in a few forms the membrane opens so as to show the twin-spathes separate. The spathe-valves are generally green, but in the case of a few varieties are yellow like the ovary, and other portions of the flower which are green in the normal forms. An abnormally formed Snowdrop has been found with two sets of spathe-valves, the lower set being green and the upper white, like the sepals.

The flower itself is composed, in addition to the ovary or seed vessel, of three outer segments, called the sepals. These are generally entirely white, but there are a few exceptions, which will be mentioned later. The inner segments are the petals, and these are more or less marked with green. Then there is a cluster of 6 anthers, opening by slits or seams near the apex, so as to allow the pollent to fall on the pin-like stigma in the centre of the flower.

SPECIES AND VARIETIES.

Taking the various species and forms according to Mr Burbridge's arrangement as a whole, although there is room for some difference of opinion as to what are true species and what are merely varieties, we come first to *Galanthus nivalis*, our common Snowdrop, a rather variable plant. There are two forms commonly met with. The small one we generally see in gardens, of which I have here a small specimen, grown in poor soil, and the southern form known as *G. nivalis Imperati*. I have here a specimen of one of the finest forms of the latter, one called *Atkinsi*, which, by the way, frequently has an additional

segment. There are, however, a number of other varieties, and among these are what are called the autumn-flowering varieties, known by various names, such as *corcyrensis*, *octobrensis*, *Rachelæ*, and *Olgæ*. The distinguishing feature of the autumn-flowering forms is a whitish line down the centre of the leaf. In our climate most of these show a tendency to come into line with our common Snowdrop in time of blooming. Of the numerous varieties one can only mention a few of the most distinct. There is a large-flowered one, named *Melvillei*, interesting to Scotsmen from its having originated at Dunrobin Castle, Sutherlandshire. *Virescens* is an interesting one, from the green colouring of the exterior of outer segments. The curious *Scharloki*, which was found in Germany, has some green shading on these outer segments, but its divided spathes are its most distinguishing feature. *Warei* has divided spathes and green spots at the apex of the outer segments, like those of a snowflake. *Flavescens* and *lutescens*, which were both found in Northumberland, are rather weakly Snowdrops, which are much prettier when growing than in the dried state. They have yellowish ovaries and markings. The smaller is rather plentiful at Howick Hall, Northumberland, the seat of Earl Grey. A variety called *poculiformis* has very long inner segments, which are pure white and free from any markings. The double variety is well known, but I have a double one with yellow markings, and Mr Allen has raised one or two doubles of slightly different character. *Galanthus caucasicus* is generally considered a form only of *G. nivalis*, though some give it specific rank.

Galanthus Elwesii, of which I have a flower or two from Mr Davidson's garden, and a dried specimen from my own, is a very distinct Snowdrop from the mountains near Smyrna. It is most variable in size and in the form of the outer segments, but is not a very satisfactory garden Snowdrop. It was at first easily recognised by the tubular arrangement of the inner segments, which are crisped, and by the dark green basal blotch, and the two deltæ on either side, but the discovery of a few species with some allied features has shaken this means of determination. It is a remarkably varied Snowdrop in size and shape.

Galanthus gracilis, from Bulgaria, is the only one of the species I have not grown. It comes close to *Elwesii*, and has the basal blotch of the inner segments as in that species, but the

lobes are not crisped as in *G. Elwesii*.

The fine *G. cilicicus*, of which I have a dried specimen here, flowered in the autumn of 1902 with me, but it did not bloom again until January, 1904. The flowers are not large in proportion to the size of the leaves, but it is a tall and beautiful Snowdrop, coming in nearer to *G.n caucasicus* than any other, in my opinion. It comes from Sirwas, in N.E. Asia Minor.

When Mr Burbidge drew up his synopsis he included only one *Galanthus* in his class 2—those with broadly plaited glaucescent leaf. This is *G. plicatus*, from the Crimea, a fine Snowdrop, which, however, has a curious habit of dying off without apparent cause. I have here a specimen, hardly at maturity, of a fine form of this, called *Fraseri*, selected in an Edinburgh garden from a lot of imported plants. It is more permanent than the other. You may be able to observe the reduplication or folding back of the leaves at the margin. Since Mr Burbidge's paper appeared we have had another introduction in this section, in the shape of *Galanthus byzantinus*, which is intermediate between *G. plicatus* and *G. Elwesii*. It is probably a natural hybrid. There seems some dubiety as to the source whence this Snowdrop has come, but it is said to have been found on the European shores of the Bosphorus. I have here a specimen, from a number which were collected on the Asiatic side, near Broussa. This is identical with *G. byzantinus* from the European coasts, and from a number of bulbs I had sent me by a collector from Broussa I had a very mixed lot of flowers, some showing a greater affinity to *G. Elwesii* than to *G. plicatus* and vice-versa. Thus I feel certain that this is a natural hybrid, but, although *G. Elwesii* occurs in that district, no one has yet traced *G. plicatus* to its neighbourhood. You will observe the rather curious form of the leaf, and the folding back as in *G. plicatus*.

In the section of Snowdrops with a broad lorate green leaf, Mr Burbidge mentioned two species, *G. latifolius* and *G. Fosteri*. Since then *G. Ikariæ* has been introduced, so that there are now three in this class. *G. latifolius* is a handsome-leaved Snowdrop, but as our climate does not suit it, I am unable to show a specimen. Its main distinction lies in its broad, shining green leaves. Its flowers are small and pure white. A form called

Alleni is hardier, and I have here a portion of an immature leaf which gives an idea of the general character of the foliage.

G. Fosteri is generally believed to be a natural hybrid between *G. latifolius* and *G. Elwesii*. The green petal markings of this are like those of *Elwesii*, but the green apical spots are confluent. This is a most variable Snowdrop. When I left home it was not in bloom, so that I have not a dried specimen here, but, thanks to Mr James Davidson of Summerville, I am able to show a fresh bloom from his garden. One is glad to be able to show a specimen of *G. Ikariæ*, from the classic island of Icaria, where the body of Icarus was cast by the sea and buried by Hercules, after his unfortunate flight from Crete, when the sun is said to have melted the wax which cemented his wings, with the result that he fell into the Ægean Sea. The leaves of the specimen I have were not fully developed when plucked, but it will show the character of the foliage, although it cannot reveal the beautiful arching habit it has when fully grown. The flower is a fine one, and much superior to that of any other form with lorate green leaves. It seems to combine the characters of *Galanthus nivalis*, *Elwesii*, and *latifolius*.

Within comparatively recent years hybridisation has given us a number of fine Snowdrops, the most of these having been raised by Mr James Allen of Shepton Mallet. When I left home only a few of these were in bloom, but I have a few here which will show how fine some of these are. Mr Allen principally employed *G. nivalis*, *G. plicatus*, and *G. Elwesii* as the parents, and it is interesting to observe the various effects of the crosses employed. I have also a series of hybrids obtained by the late Mr William Thomson, High Blantyre, Lanarkshire. Some of these are very handsome flowers, and I have here a specimen of one of these hybrids, which were all between *G. plicatus* and *G. nivalis*, though some are the progeny of hybrid plants themselves. Unfortunately, Mr Thomson is dead, and Mr Allen is now in such a state of health that there is no prospect of his being able to continue a work of great interest.

DISEASES OF THE SNOWDROP.

No one has as yet discovered the cause of the sudden collapse of plants of *Galanthus plicatus* or of the frequently short life of some plants of *Glanthus Elwesii*, but *Botrytis*

galanthina is, unfortunately, only too frequently a destroyer of all Snowdrops, although, happily, there are some gardens where it has not been observed. Its popular name is given as "Snow-drop White Mould," but this, like many other popular names, is not a suitable one, as the fungus is more grey than white. There are few years in which it does not make its appearance in some gardens, and it seems as virulent on plants of original species newly imported as on the hybrids or those which have been long in cultivation. It seems to appear soon after a thaw, and is more prevalent in winters where we have frequent alternations of frost and thaws. It has, one time and another, attacked all the species and many of the varieties in my garden. This year I have only seen it on some bulbs of *Galanthus cilicicus*, but the plants of *Galanthus byzantinus* I had from Broussa were decimated, and a fine row of *Gal. ikariæ* suffered even more severely a few years ago. I have found several clumps badly affected among the myriads of plants in Arbigland woods, so that one cannot consider that it is artificial conditions which introduce it. I have here an illustration of *Botrytis galanthina*, in a copy of the "Journal of the Royal Horticultural Society," where it forms one of a series of illustrations of a capital series of articles by Dr M. C. Cooke on "Pests of the Flower Garden." The best treatment is the destruction of the infected plants by means of fire, and dusting round about the spot with sulphur or a specific for plant diseases called Veltha.

II.—METEOROLOGICAL OBSERVATIONS AT DUMFRIES DURING 1903. By Rev. W. ANDSON.

Barometer—Highest on 5th November, 30.629 in. ; lowest on 27th February, at 5 a.m., 28.250 in. ; annual range, 2.379 in. Mean barometrical pressure for the year (reduced to 32 deg. and sea level), 29.816 in. This is about one-tenth of an inch below average, and when the details are examined it appears that only one month in the year, namely, the month of June, had a mean pressure of a little over 30 inches, while several had values considerably below the average of the last 17 years. This was true of December, March, and October, the last-mentioned month in particular showing the abnormal figure of 29.461 in., instead of a mean of 29.925 in. On the whole, therefore, the

Report of Meteorological Observations taken at Dumfries during the year 1903.

Lat., 55° 4' N. ; Long., 3° 36' W. ; Elevation above sea level, 60 feet ; Distance from the sea, 9 miles.

1903.	Months.	BAROMETER.				S.-R. THERMOMETER. In Shade, 4 feet above grass.				RAINFALL.			HYGRO-METER.		Temperature of Dew Point. Deg.	Relative Humidity. Sat. = 100.	
		Highest in Month.	Lowest in Month.	Monthly Range.	Mean Pres- sure of Month.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean Maximum.	Mean Minimum.	Mean temper- ature of Month.	Haviest in 24 hours.	Amount for Month.	Days on which it fell.			Mean Dry Bulb. Deg.	Mean Wet Bulb. Deg.
Jan.	30-580	28-811	1-778	29-704	51°	17°	34°	41-9	33-1	37-5	1-29	5-44	19	39-4	37-9	35-5	88
Feb.	30-477	28-250	2-27	29-867	54-7	29°	25-7	48-5	39-6	44-1	0-97	4-88	23	44°	42-3	40°	86
Mar.	30-214	28-540	1-674	29-595	57°	30-8	26-2	42-6	40-9	43-3	0-89	7-46	31	42-5	40-5	39-1	85
April	30-461	29-302	1-159	29-850	50°	25-2	33-8	52-1	34-5	43-3	0-70	1-71	13	43-4	40-2	36-5	76
May	30-481	29-240	1-241	29-871	79-7	35-2	44-5	60-3	42-9	51-6	0-41	2-63	18	50-7	47-1	43-3	77
June	30-480	29-742	0-738	30-086	76-8	36°	40-8	65-1	46-9	56°	0-46	1-71	10	55-8	51-1	46-0	70
July	30-350	29-439	0-911	29-881	80°	41°	39°	66-7	50-2	58-4	1-33	3-96	15	57-7	34-2	51°	78
Aug.	30-200	28-841	1-359	29-763	71°	39°	32°	65-8	48-3	57-1	0-66	4-35	22	56-2	53°	49-9	80
Sept.	30-573	29-400	1-173	29-969	69-3	31-7	37-6	62-8	46-1	54-4	0-90	3-39	16	53-6	5-3	49-7	88
Oct.	30-045	28-850	1-195	29-461	63°	30°	33°	54-8	43-8	52-5	1-28	8-55	28	48-3	46-3	44-1	86
Nov.	30-029	29-027	1-602	29-967	56°	24°	32°	47-5	36-8	42-2	0-44	3-06	23	42-1	40-6	38-7	88
Dec.	30-214	28-817	1-397	29-699	51°	22°	29°	40-8	32-5	36-7	0-39	3-31	19	36-5	35-4	33-8	91
Year..	30-029	28-250	2-379	29-816	80°	17°	63°	54-1	42-2	48-1	1-33	50-45	237	47-5	45°	41-8	83

WIND—

Days ...	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Var. or Calm.
111½	29½	44½	41½	34½	98	57	44½	10	

year was one of low barometer readings, and the number of days on which these fell below 29 inches was considerably more than usual. They occurred in January, February, and March; and again in August, October, and December, and for the most part were accompanied by strong gales and heavy rains. The lowest reading of the year, 28.250 in., as previously noted, occurred in February, but in March it was little higher, and that month was throughout singularly boisterous and unsettled.

Temperature in shade, 4 feet above grass—The highest temperature of the year was recorded on the 2d July, and was no more than 80 deg. This was the only day on which the thermometer rose so high, the next being 79.7 deg., on the 31st May. June had a no higher single day temperature than 76.8 deg., and the absolute maximum of August was only 71 deg. This shows a remarkable scarcity of very warm, sunny days, although there seems to have been less deficiency in days moderately warm, with readings above 70 deg. The lowest temperature of the year was registered on the 14th January, with a record of 17 deg., giving an annual range of 63 deg. The warmest month was July, with a mean of 58.4 deg. August had 57.1 deg., and June 56 deg., all of which were decidedly under average. The coldest month was December, with a mean of 36.7 deg., and the next coldest January, with a mean of 37.5 deg., both of which were slightly under average. But the deficiency, we might thus have been led to expect, was more than compensated by the excess above average in several of the other months. In February it was 5.7 deg., in March 2.2 deg., and in October 5 deg., giving an aggregate excess of 12.9 deg., while the deficiency in the other months only amounted to 10 deg. Hence the mean annual temperature turns out to be slightly above average, viz., 48.1 deg., as compared with a mean of 47.5 deg. Of course, the explanation of such excesses of temperature as have been referred to in February, March, and October is to be found in the unusual prevalence of cyclones from the Atlantic with southerly, south-westerly, and westerly winds, and heavy rains. The first three months of the year were characterised by open and wet weather. April was cold and dry, May was favourable on the whole to vegetation, but during the proper summer months there was a deficiency of hot and sunny days, while the autumn, although mild, was very wet, and proved excessively injurious to the

harvest, causing great lateness, and serious loss and damage to the crops. The number of nights on which the self-registering thermometer fell to or below the freezing point was as follows:— In January, 15, with an aggregate of 74 deg. of frost; February, 4, with an aggregate of 3.6 deg.; March, 1, with an aggregate of 1.2 deg.; April, 12, with an aggregate of 37.7 deg.; October, 1, with an aggregate of 1.2 deg.; November, 6, with an aggregate of 21.4 deg.; December, 17, with an aggregate of 64.3 deg. In all 57 nights with an aggregate of 203 deg. of frost. It will be observed from this report that February and March were uncommonly free from frost, and that April had more than its usual share. It may be noted as an unusual circumstance that the mean temperature of April was exactly the same as that of March, viz., 43.3 deg., and that February had a temperature slightly higher, viz., 44.1 deg., and in this fact doubtless we find the true explanation of the serious failure of the fruit crops. There was a great appearance of blossom in the early part of the season, but it was mostly blighted by the April frosts, and unproductive of fruit. January and December were, as usual, the coldest months of the year, but by no means in a degree exceeding the average.

Rainfall.—I need hardly say that the most outstanding and remarkable feature of the weather of 1903 was its excessive rainfall. The number of days on which precipitation took place to the amount of one-hundredth of an inch or more was 237, the average being about 200. In the month of March rain fell more or less every day, a circumstance almost, if not altogether, unprecedented of any month, and in October the number was very little short of the whole, viz., 28 out of 31. These two months were the rainiest of the year, October having a record of 8.55 in. and March of 7.46 in. The driest months were April and June, each of which had the same amounts, viz., 1.71 in., both below average; but with the exception of these two months, and of a slight shortage in November and December, all the other months had values in excess of the mean, but more particularly January, February, March, and October, the two first of which had nearly double, and the two last almost treble the amount of the seventeen years' average. The total fall for the year was 50.45 in., which is 13 inches above the mean, and the heaviest recorded at this station since observations were begun

in 1887. The next heaviest was 47.08 inches in 1900. In 1891, 1894, 1897, and 1899 they ranged from 40.86 in. to 42.92, but all the others were under 40 in., the driest year having 30.99 in., in 1887, the average of the whole period being about 37 in. Three times in the course of the year there was a fall exceeding an inch in 24 hours, once in January, once in July, and once in October, and on these occasions the river was in heavy flood. During the months of March and October, indeed, it may be said to have been in constant flood, the depth at the New Bridge, as indicated by the gauge, ranging from seven or eight to eleven or even twelve feet. I have noted eleven and a-half feet on the depth on the 17th March, and twelve feet on the 22nd, and nine feet on the 27th October. There were dry periods in April and June. From the 16th to the 28th of the former month rain fell only once to the amount of no more than 0.03 in., and from the 5th to the 14th June, a period of nine days, there was no rain. Again, there was a period in September, extending from the 11th to 22nd, twelve days, quite dry, during which an opportunity was afforded on early farms of securing the safe in-gathering of the crops, but after that there were not two days in succession perfectly dry till well on in November, with the unfortunate result that the work of the harvest was almost completely arrested, and great loss and damage to the crops ensued.

Hygrometer—The annual mean of the 9 a.m. and the 9 p.m. readings of the dry bulb thermometer was 47.5 deg., very nearly equal to the mean temperature of the year. The annual mean of the wet bulb readings was 45 deg. The mean temperature of the dew point, as calculated from these data, was 41.8 deg., and the relative humidity (saturation being equal to 100) was 83.

As regards the wind directions, the south-westerly was as usual the most prevailing, blowing no fewer than 98 days. The next was the westerly, which had 57 days. Then followed the south-easterly with $45\frac{1}{2}$ days, the east with $43\frac{1}{2}$, the north-west with $42\frac{1}{2}$, the south with $34\frac{1}{2}$, the north-east with $29\frac{1}{2}$, and the north with $11\frac{1}{2}$, while six were calm or variable. Combining those which had a southerly and westerly direction, but including the south-easterly, we have a total of 235 days, while those from a northerly and easterly direction, including the north-westerly,

only show a total of 127 days. The usual proportion of these two classes of winds is in general similar to this. But owing to the unusual prevalence of cyclones from the Atlantic during the past year, it seems to me that the southerly and westerly have had more than their ordinary share; and this would only be in correspondence with the fact of a temperature somewhat above the average, and a rainfall much in excess of it.

THE WEATHER IN RELATION TO HEALTH. By Dr J.
MAXWELL ROSS.

(From the Dumfries and Galloway Standard.)

Dr Ross said that Mr Andson's paper showed the usual painstaking work that had always characterised his contributions to the society. As they were aware, there were something like sixty stations in Scotland accepted by the Scottish Meteorological Society, as well-equipped and from which observations were made. There were only two in this county, one at which Mr Andson procured his data, and one at Drumlanrig. Mr Andson's inability to be present last month and read his paper had afforded an opportunity of studying the observations taken at some of the other stations, and it was rather interesting to compare the results. At Drumlanrig, for example, some of the observations were in close accord with those of Mr Andson, while others were very different. Drumlanrig was situated 191 feet above the sea level, and the station at which Mr Andson made his observations was about 60 feet. That and other facts helped to account for the difference. The mean barometric pressure at Drumlanrig for the year was 29.593. Mr Andson's was 29.816, so that the higher pressure was, of course, where they might expect it. The mean maximum temperature at Drumlanrig was 53.4; the mean minimum, 39; and the mean temperature 46.2 degrees. These were rather less than Mr Andson's. The number of rainy days was found by Mr Andson to be 237. At Drumlanrig they were 240. The amount of rainfall at the latter place was also considerably in excess of Mr Andson's observations, being 62.86, or at least 12 inches more. With regard to direction of winds, it had to be noted that formerly the observations were recorded daily, and Mr Andson continued that, giving the prevailing wind for the 24 hours—probably the average re-

sult of two observations—but the sum of the two observations made at 9 a.m. and 9 p.m. were now given in the society's monthly tables, making the observations apparently double those in Mr Andson's table. At Drumlanrig the prevailing winds, as at Dumfries, were south-westerly, there being 216 at the former against 190 which he had calculated as the observations of Mr Andson. Direct westerly winds at Drumlanrig were much fewer, 64 against 115. North-westerly were much more prevalent at Drumlanrig, 199 against 83. North-easterly and easterly were much more prevalent at Dumfries, the north-easterly numbering 61 against 44 at Drumlanrig, and the easterly numbering 89 against 5. Mr Andson indicated that the year was one of low barometer at Dumfries. The same remark held good over the whole of Scotland, only three months being in excess of their average, viz., June, September, and November. All the other months were below the average. Comparing the temperature of Dumfries with that of other parts of Scotland, he found that Dumfries was somewhat favoured. He did not know that it was exactly the hottest place in Scotland, but there were two months during which it certainly had that characteristic, in May and July, when the highest temperature of 79.7 and 80 respectively were recorded. The lowest temperature of the year at Dumfries was 17 degrees on 14th January. On the same day at Drumlanrig it was 13. The rainfall at Dumfries was 13 inches, and at Drumlanrig 18 inches in excess of their respective averages. Dealing afterwards with the influence which the weather made upon the mortality from various diseases, Dr Ross said he was not prepared to state that during the year the weather had abnormally affected health. The fact of the matter was that, if anything, last year had been one of the healthiest they had experienced, and showed one of the lowest death-rates. Taking the whole county, but excluding the burgh of Dumfries, for which he had not the requisite data, the death-rate was 15.609 per thousand. It was not always very easy to gather from a statement of that kind whether the year had been a healthy one or not, but he would put it in another way. If they took the average death-rates and calculated from them what they might call the expected deaths, they would find that there should have been something like 961, whereas the actual deaths amounted to 915, so that the mortality during 1903 was considerably less than

what might have been anticipated. Dr Ross afterwards gave the weather conditions and mortality rates for the various months of the year, and summing these up he remarked that taking the months with deaths beyond the number expected, viz., January, February, July, August, October, and December, and the months with deaths below the number expected, viz., March, April, May, June, September, and November, he found, on contrasting their climatic conditions, that the difference between the two sets of months was not very great. The months with deaths beyond the expected number all had a low barometer. Four months had low mean temperatures, two had high mean temperatures, one had a low rainfall, one an average rainfall, and four high rainfalls. Of months with deaths below the expected number three had low barometer readings; two high, one average. The mean temperature in three of the months was low; in two, average; in one, higher than the average. The rainfalls were low in three months, high in two, and about the average in one. The greater number of deaths from zymotic causes occurred in the first quarter of the year, and were due to the prevalence of whooping cough in January and February. Of nineteen deaths during the year, fourteen occurred in the first quarter, and of these fourteen, nine were in January. Only one death was due to typhoid or enteric fever, and it occurred in December. Influenza was also prevalent during the first quarter, and was most fatal then, there being ten deaths in that period out of fourteen during the year. From consumption, or phthisis, there were 99 deaths altogether; and of these, 50 occurred in May, June, July, and August, the warmer part of the year. Twenty-eight occurred in the first four months, and twenty-one in the last four. These figures showed that consumption, though a debilitating disease, was not necessarily most fatal in the colder part of the year. There were 176 deaths traceable to circulatory, and 114 to respiratory diseases. The highest number of circulatory deaths in any one month occurred in March, when there were twenty-three. In January and October 20 were recorded. The lowest number was seven, recorded in July, there being ten in June and ten in September. From respiratory causes the highest number of deaths occurred in January, when there were 19, and in December, when there were 16. The lowest rates were in April, June, July, and

September, showing that the colder and wetter part of the year was more liable to affect those suffering from that disease. In concluding, Dr Ross stated that study of the phthisis statistics would show that there was too much fear in regard to exposing consumptive patients to the weather. The death-rate from that cause was really higher in the warmer months than in the colder, so that fear of the results of exposure was a fetish that ought to be abolished.

29th March, 1904.

Chairman—Mr JAMES LENNOX.

EXHIBITS.—Flint-lock Carbine and 2 Brass-barrelled Flint-lock Pistols, with Spring Bayonets attached, the property of the Bank of Scotland, which had always been in the Dumfries Branch, since it was opened in 1784, by the Secretary; a Rose with a bud coming through the centre of the flower, by the Chairman.

I.—LAWS OF FINES FOR THE PRESBYTERY OF DUMFRIES.

An interesting document read by Rev. R. W. WEIR, and dated May 7, 1816, and being a list of the Fines imposed by the Dining Club of the Dumfries Presbytery.

II.—SOME SCOTTISH WORDS FOUND IN OLD ENGLISH WRITERS.
By Dr CHINNOCK.

This valuable and interesting paper, which gave evidence of much knowledge and research, gave many quotations to show that many of our Scottish words were to be found in old English writers.

20th May, 1904.

Chairman—Mr W. DICKIE.

NEW MEMBER.—Rev. H. A. Whitelaw, Townhead United Free Church.

I.—GEOLOGICAL NOTES. By MR JAMES WATT.

In these interesting notes Mr Watt summarised in a concise manner the leading geological features of the two countries. It was shown that in England examples of the whole rocks forming the earth's crust in all its divisions of primary, secondary, tertiary, and post-tertiary, with the single exception of Miocene system, were to be found. And, such being the case, it was held that it was not too much to say that England, for the extent of its area, affords to the geologist and naturalist the most interesting field for observation of any country in the whole world; and this particularly on account of the abundance and variety of fossilised organic remains to be found in strata of secondary and tertiary times.

With regard to Scottish geology it was shown that its interesting features were of quite a different order from those of the sister country. In Scotland the secondary series of rocks, including the great Jurassic system, so rich in fossils, and the whole of the tertiary were almost entirely absent. The exceptions were chiefly the great masses of volcanic rocks of tertiary age in the west of Scotland, in Skye, Mull, and other islands, where they rise in huge cliffs above the sea; as also by a great number of volcanic dykes which had risen through rents in the crust of the earth in different parts of the country. In addition a number of fossiliferous sedimentary patches of rock in certain districts were mentioned. But upon the whole, it was shown that practically the geology of Scotland was notable, and most interesting from the fact that the mountains and whole surface belong to either the most ancient, the primary or Palaeozoic or to the most recent, the Pleistocene, with all the debris of the glacial age, grooved and striated rock surfaces, punched blocks, and great masses of boulder clay.

DUMFRIES CRAIGS.

The late Dr Harkness, of Dumfries, communicated a paper to the Journal of the Edinburgh Geological Society, in which he propounded the theory that these cliffs (the Craigs) were caused by two faults. That is, that a portion of the rock surface had been displaced and thrown down, leaving the cliffs as we now see them. I am aware that the officers of the Survey who

surveyed this part of the country dissented from Dr Harkness's opinion. I am not aware of the views of those gentlemen on the subject, but, on my own account, I beg to differ from such an opinion, and will endeavour very shortly to state my reasons.

The three ridges out of which the Craigs have been hewn are masses of permian breccia, resting on sandstone—the sandstone of Georgetown and Craigs quarries. It is not a very material point, but we may note the heights as given in the New Ordnance sheet: Maidenbower Craig, 276.1 feet; Middle Craig, 247.4 feet; Lower Craig, 200 feet above sea level. The height from the base of the Maidenbower and Middle Craigs, measured by the eye, I take to be somewhere about 100 feet—standing up as sheer perpendicular cliffs, and I dissent from the fault theory, because (1) "faults" are not found in such form; (2) if the Craigs were formed of two faults the dislocation would have shown in greater length; (3) at the Middle Craig, north side, the sandstone is seen dipping below the breccia, which would not be in the case of a fault; (4) at Craigs Quarry, Maidenbower Craig, you can see the thick-bedded sandstones with breccia on the top. This is opposed to the existence of a fault. In my opinion, the Craigs are simply the topmost of the series of regularly alternating beds of sandstone and breccia with which the whole of the Dumfries Basin is filled, as has been shown by the well borings mentioned in a former paper. At the Gasworks the bore went through twenty alternations of sandstone and breccia, and, having gone down six hundred feet, had not reached the bottom of the strata. There cannot be a doubt, I venture to think, but that the appearance of these cliffs is due to the action of the waves and breakers of an ancient sea. The mechanical force exerted by storm-driven waves on a rocky shore is, as is well known, very great. It is a force always in action, and with the rise and fall of the tide, four times a day, it acts like a saw, cutting horizontally into the land; not so much from the weight of the waves alone as from the enormous power which they exert in times of storms and great gales, pushing forward great masses of gravel, sand, boulders, and dislodged masses of the rocks against which the waves are beating, and so pounding and battering the opposing barrier, until in process of time, in the case of a very hard rock, vertical cliffs are sculptured out of the line of coast. Such is the process by which I venture to think the Craigs have been formed. As to

their age, the bases of each being at a higher level than any of the well-marked raised beaches of the country, as also the presence of boulder clay above and below and all around it makes it, I think, certain that they are of pre-glacial origin.

ARBIGLAND SHORE.

On the subject of this short paper there is no pretension of any original observation. But simply to offer a few notes of a walk along the shore on two occasions, and aided in this by the "Official Explanation of Sheet 5" of the Geological Survey Map. As seen standing on the top of the Twenty-five-Foot Beach close to the Arbigland grounds and looking down on the shore, below high-water mark, we see a horizontal section of what in carboniferous times was an atoll or coral island, which has been planed flat down by the action of the waves and other denuding agencies, affording good illustration of the deposit and growth of the original coral island, now merged into coralline limestone. Looked at from above it will be seen that these coral stones form a symmetrical basin, and that their successive beds are arranged in consecutive layers, and, when observed nearer, they will be seen to dip towards the centre at gentle angles. It can only be said further that the corals to be found along the shore are abundant and well preserved, also many shells, bivalves, gastropods, etc., all very interesting. According to the official account, on "the shore between Hogus Point and Carsethorn there is an almost continuous section of carboniferous strata, all much faulted and folded, which may be grouped in descending order: (1) Coralline limestone of Arbigland Bay; (2) sandstones and shales and marine limestones; (3) sandstones and shales, marine bands and cement sandstones." The great ice-borne granite boulder is a well-known object of interest on the Arbigland shore.

As we are not very far from Criffel, we may notice, in conclusion, that Sir Archibald Geikie, formerly Director-General of the Geological Survey, has observed that "while tracing the glaciation of the region, Dr Horne obtained proofs that the ice which drained from the inland country was in mass sufficient to override Criffel, and must, therefore, have had there a minimum thickness of 2000 feet. This is a fact of much interest, in view of the wide distribution of boulders of Criffel granite over the north of England, and even as far south as Wales."

II.—VESTIGES OF THE CASTLE OF DUMFRIES. By Mr JAMES BARBOUR, F.S.A. (Scot.).

As far back as the reign of William the Lion a Castle of Dumfries existed, as appears from charters of that time describing tenements as lying between the Castle and the church. Later, about the year 1259, the Castle is mentioned as the place where the trial by jury of Richard, son of Robert, son of Elsa, for the murder of Adam the Miller was held. And frequent references to it occur in ancient documents relating to the period of the Edwardian wars.

Geographically, the Castle appears sufficiently authenticated. A report by an English official prepared between the years 1563 and 1566, printed in Armstrong's "Liddesdale," and given also in Mr William Dickie's "Dumfries and Round About," conveys a clear idea of its situation.

"The old Castle of Dumfries," the report says, "five miles and a half within the mouth of Nith, standing upon the side of the same, very good for a fort. The plat and ground thereof in manner like to Roxburgh Castle. It may late (command) the town and the bridge of Dumfries, and receive boats of ten tons as said is furth of England.

. . . . The town of Dumfries standeth vi. miles within the mouth of Nith, the head town of the shire. The Lord Maxwell hath a fair house, battled, within this town, but not tentable nor strong against any battery of guns."

The terms of this report show that the Castle of Dumfries stood on the side of the river half a mile below the town, a description which coincides with the place called Castledykes; and the castle which occupied the site of Greyfriars' Church in the centre of the town is differentiated as a house of the Maxwells.

Vestiges of the ancient Castle of Dumfries are thus to be looked for at Castledykes—a name suggestive of the existence of a castle fortified with dykes. Earthen fortifications were usually called dykes. At Carstairs a Roman camp with fortifications of this character was called Castledykes, and in Barbour's "Bruce" dykes is the term used:—

The Inglis men sa clossyt had
Thair ost, with dykis that thai maid,
That thai war strenthit gretumly.

Thai in hy towart the town;
And fillyt dykis hastily,
Syne to the wall rycht hardely
They went, with leddris that thai haid.

Castledykes has, no doubt, been much altered. The Kelton road skirts it on the north, and the road leading to the New Quay on the south, cutting off the river bank and Kingholm; and a house with its gardens covers the greater part of what was probably the Castle area.

Towards the north there is a tabular elevation, named on the O.M., on what authority I do not know, "Site of Comyn's Castle." From it the ground falls in all directions, gently at some places, but on the south and west quickly forming a steep and high bank. From the foot of this bank southwards the area is comparatively level, but still well elevated above the river.

Part of a great open ditch or fosse is found on the north and east sides of the plateau. It extends from the entrance gateway off the Kelton road eastwards, parallel with the road and nearly in a straight line, a length of eighty yards. At this point it turns with a wide and shapely curve and runs southwards 60 yards, where trace of it is lost. Evidently the ditch has continued westwards from the gateway for about eighty yards and thence southwards, thus covering the north, east, and west sides of the plateau. The west ditch, and the part of the north ditch west of the gateway, are filled with a large stone-built drain and a deep covering of earth. The only evidence of a ditch on the south side of the plateau is a longitudinal hollow at the west end. The shape and direction of the hollow, taken with the probability of such a ditch, may, I think, be accepted as sufficient proof. The open part of the ditch measures 50 to 60 feet in width at the top and 6 at the bottom, and the depths is 25 to 30 feet.

Obviously these are vestiges of the ancient fortifications of the Castle, encompassing the citadel, and judging by the parts open they appear to be as large and formidable barriers of defence as any of the ditches of military works reported in the proceedings of the Society of Antiquaries of Scotland.

Edward I. in the year 1300 greatly strengthened the castle. According to calculations by Dr George Neilson, contained in "Peel: Its Meaning and Derivation," ditchers to the number of 250, with some women helpers, worked on the fosses for a fort-

night, and 60 to 100 carpenters, with two dozen smiths, were continuously at work for a period of between two and three months, cutting timber in Inglewood forest, Cumberland, and in woods near Dumfries, transporting the material and constructing with them round the Castle a stout palisade. Whether the palisade was the only carpenter work overtaken seems doubtful considering the number of workmen employed and the time occupied. It is a notable circumstance that masons are not represented among the craftsmen. Might not the scheme of strengthening the place embrace the building of a wooden tower?

It was to this place that Bruce fled on the slaughter of Comyn in the chapel of the Greyfriars' Monastery, situated at the other end of the town. In the words of Hemingburgh, "The Lord Robert de Brus went out; and seeing the Lord John's fine steed, he mounted it; and his men mounted with him. They set out for the Castle and seized it."

FIELD MEETING.

28th June, 1904.

A Meeting of the Society was held at Castledykes for the purpose of inspecting the vestiges of the Castle of Dumfries.

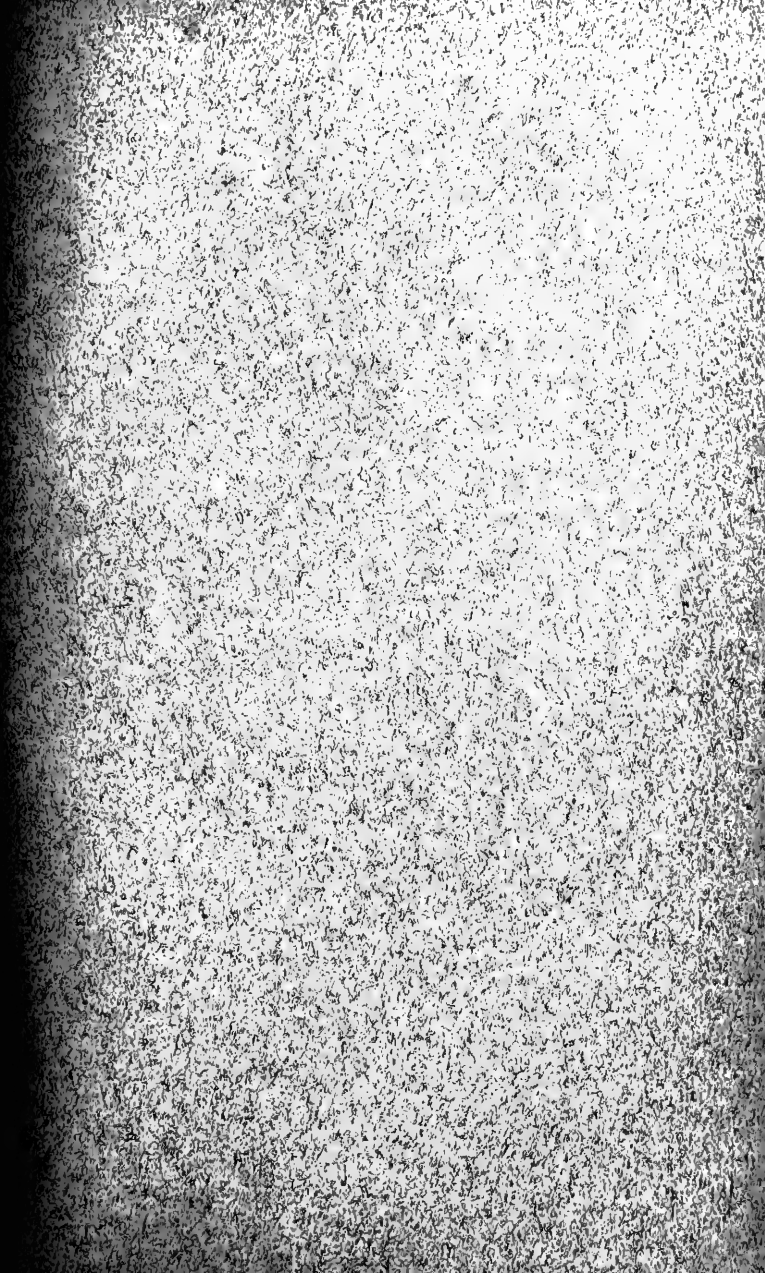
Chairman—Rev. W. ANDSON.

Provost Glover and other Members of Dumfries Town Council were present by invitation.

NEW MEMBER.—Rev. W. L. Stephen, St Mary's Manse, Moffat.

Under the guidance of Mr James Barbour, the party went over the trenches and moat, Mr Barbour giving explanations as to the formation thereof, and their uses; and referring to the history of the Castle. Mr Barbour suggested that it would be desirable to cut several trenches across the plateau, and offered his personal supervision for the work. The Provost and other members of the Council thanked Mr Barbour for the kind offer, and agreed to recommend the Council to provide a couple of labourers for a few days for excavating work, so that, if possible, further light might be obtained regarding the position and structure of the Old Castle. Mr James M'Gregor, tenant of Castledykes, cordially gave his consent to the proposed excavations. Votes of thanks were accorded to Mr and Mrs M'Gregor for permission to visit the grounds; to Mr Barbour for his instructive remarks; and to Provost Glover and the Members of Council for their presence.

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THE TRANSACTIONS

AND

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DUMFRIESSHIRE AND GALLOWAY

Natural History and Antiquarian Society

FOUNDED NOVEMBER, 1862.



SESSION 1904-1905.

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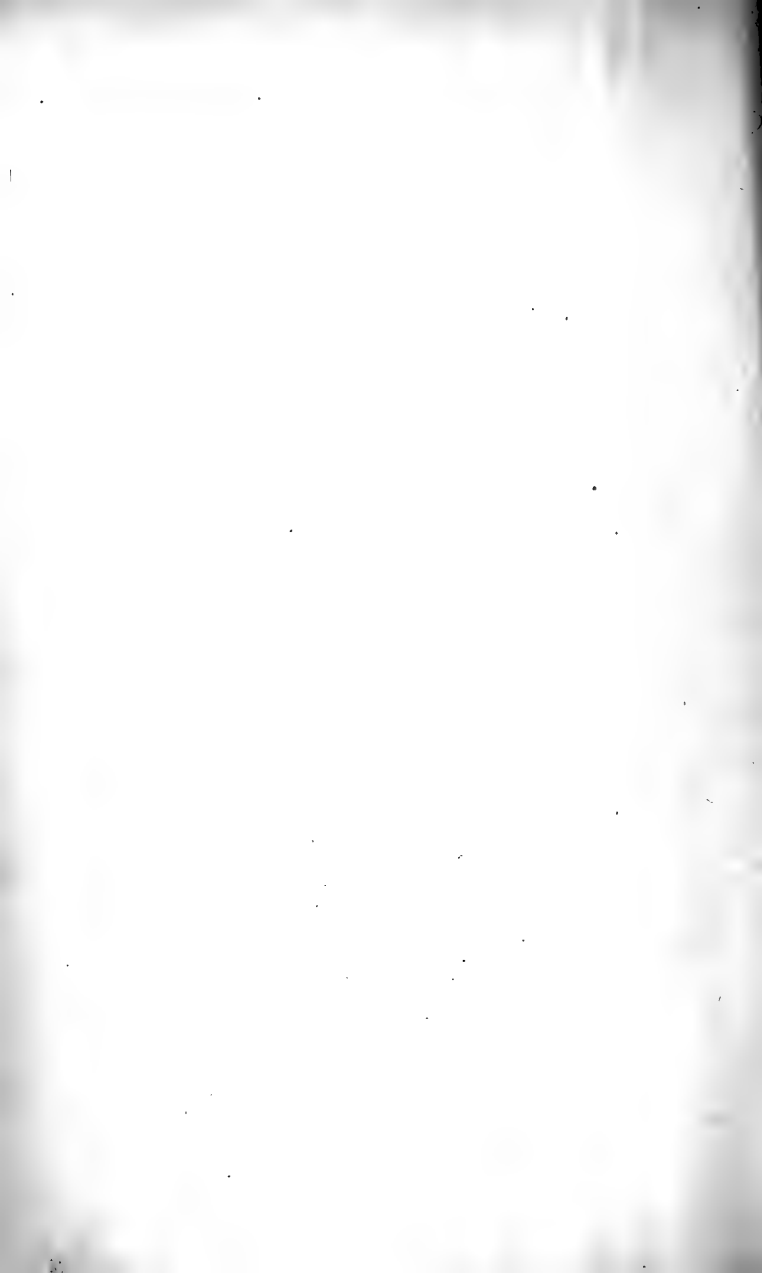
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PROCEEDINGS AND TRANSACTIONS

OF THE

DUMFRIESSHIRE AND GALLOWAY

NATURAL HISTORY & ANTIQUARIAN SOCIETY.

SESSION 1904-5.

28th October, 1904.

ANNUAL MEETING.

Chairman—Mr G. F. SCOTT-ELLIOT, President.

NEW MEMBERS.—Mrs Atkinson, Ladies' Club, Dumfries; Mr Robert Barbour, architect. Mr G. W. Shirley, librarian of the Ewart Public Library, was elected an Honorary Member.

The Secretary and Treasurer submitted his annual reports, which showed that the Society had lost 23 members by death or resignation, that 4 new members had been elected, and that the Society had to its credit the sum of £57 14s 10d.

The following office-bearers were appointed on the recommendation of the Council:—President, Prof. Scott-Elliot; Vice-Presidents, Mr R. Murray, Mr R. Service, Mr Jas. Barbour, and Dr J. Maxwell Ross; other Members of Council, Rev. J. Cairns, Dr Martin, Mr W. M'Cutcheon, Mr Jas. Davidson, Dr Semple, Mr S. Arnott, Mr W. Dickie, Mr J. Tocher, Miss Hannay, and Miss Cresswell; Librarians and Curators of Museum, Rev. W. Andson and Mr Jas. Lennox; Curators of Herbarium, Prof. Scott-Elliot and Miss Hannay; Secretary and Treasurer, Mr J. A. Moodie.

CHILE. By the President, Professor G. F. SCOTT-ELLIOT.

In the earliest times of which we have geological evidence Chile consisted only of a western range of mountains. There was no Andes, and to the east, where is now the Argentine Republic, rolled the waves of the Atlantic, only interrupted here and there by island mountain ridges, such as the Sierra Roca, which have since been almost worn away. On the floor of the wide valley between the western mountains and the Roca chain submarine volcanoes poured forth lava flows sometimes a mile in thickness. There were islands in the valley, and carboniferous period trees grew on them. Then great rivers scattered shingle and sand over these lava flows, which are now beds of sandstone and conglomerate: these last of the same age as our Locharbriggs sandstone.

After this the earth's crust began to shrink and cracks appeared running east and west, through which again molten rock poured forth, forming transverse ridges in the great valley. Copper is found along these ridges, and in 1901 the mines yielded about £1,593,246 export.

There followed a second period of shrinking and contraction, and the whole of Chile sank deep in the water. Whilst this went on deposits of shingle and of sand containing much gypsum were distributed over the valley bottom during a period of time corresponding to the Tiras. This sinking of the land continued, and in the great gulph so formed ammonites and sea-urchins disported themselves many thousand feet below the level of the sea.

The earth crust broke and yielded. There was a prodigious upheaval accompanied by volcanic disturbances. Limestones with remains of marine fossils were carried up to a height of 15 to 16,000 feet, and the Andes chain, adorned with volcanoes at the weaker spots, was definitely formed.

As a minor detail of this eruption, silver was deposited, with unfortunate results for the poor Indians, of whom 20,000 were employed by Valdivia in the very earliest days of settlement. These gigantic earth movements have by no means finished since the formation of the Andes, which seems to have occurred about the cretaceous period; earthquakes and upheavals and subsidences have continued to our own times.

Moreover, these occur on a gigantic scale. Imagine mountains 5000 to 6000 feet high topped by icefields covering many square miles, from which powerful torrents lead down by narrow, tortuous steep-sided valleys to the lower grounds.

Then imagine your volcanic outburst, such as that of Volkan Viego, accompanied by deluges of hot ashes and great rivers of molten lava. All these, you must remember, on the top of and suddenly melting all the snow and ice.

It is not easy to get a clear picture of the destruction so caused, and of the extraordinary jumble of stones, sand, mud, and lava that filled up the Santa Gertrudis valley.

Ever since the Andes were made this sort of destruction has been going on, and it has been accompanied by upheavals and subsidences.

Somewhere about the beginning of the tertiary we find Southern Chile occupied by forests of conifers and other trees, with also many ferns. These became the beds of liquite now found near Concepcion, at Lota, Coronel, Arauco, even at Sandy Point, in the Straits of Magellan, and at various places up the east side of the Andes.

Still later all Northern Chile was submerged, and a great sea occupied the present nitrate fields. When this sea dried up, through elevation, the nitric acid of these seaweeds, in contact with gypsum and limestone, produced nitrate of soda. Some 400,000,000,000 of kilogrammes are supposed to exist, and the value of the export, iodine and nitrate, in 1901 was £9,181,440. The borate of lime alone came to £97,680.

Middle Chile, including the rich central valley, was, however, almost filled up even then by the richest soil, brought down by the Andine rivers, and blended at all the many diverse rocks which compose that chain.

The transgressions of the sea filled the lower part of the Chile valley with water, but the valley itself can be traced in sounds and inlets right down to Cape Horn.

Thus, Chile consists of (1) the Western Mountains; (2) the valley nitrate desert, rich land or sea inlet; (3) Andes, with its river system of valleys; and (4) another valley, the "Moreno," which is partly occupied by great fresh-water lakes, and partly filled by shingles or lavas or sand of recent deposit.

To the east stretches the monotonous terraces and tablelands

of Patagonia and the Argentine Republic, only broken here and there by inconspicuous ridges which represent a great mountain system now nearly worn away.

The rainfall of Chile depends upon the prevalent winds. All winds from the east cross the Argentine and lose all moisture long before they rise into the cold Andine passes, where they form violent and dangerous hurricanes. These blow especially from 10 a.m., thus travellers have to cross in the early morning. We left the night's hotel at 4 a.m., and got over on mule-back by 7.30. But by a sort of suction these winds cause a breeze over the central valley which begins about 1-2 p.m. After a morning of brilliant sunshine, it dies off towards night. During the night cold air flows down into the valley from the Andes.

There lies in the Pacific Ocean a permanent eddy, a kind of "swirl," in the atmosphere. It follows that on all southern Chile a procession of westerly winds from the Pacific deposits abundant rain on the Pacific slopes and West Coast islands, As one passes north in Chile these winds are either parallel to or away from the coast and bring no rain.

Thus the rainfall varies:—

From Latitude				Valdivia.	Western end of Magellan's Straits.
24°-27°.	72°-29°.	29°-30°.	33°.		
0 over many years	0 in 1-2 years	0 in no year	16-20 ins. in 1 year	114 ins. 134 days in 1 year	149·65 ins. 313 days in 1 year

The last is Dr Coppinger's estimate.

The aristocracy are mostly Spanish descendants of the conquistadores, but many of the ruling families are partly of British descent. It must be remembered that South American republics owe a great deal to us. Our army in the Spanish peninsula, the great Earl of Dundonald, Elamirante Cochrane, guarded the Pacific for the insurgents. O'Higgins, the liberator, was the descendant of a West Meath Irishman, and such names as Walker, Pratt, Condell, Rogers, Simpson, and Golwards are found amongst the Chilian aristocracy. The loans which enabled the young republic to fight were raised in London, and, in fact,

from the time of Drake, the Republic of Chile has been greatly assisted by British. It may be on this account that the governing classes seem more enlightened and business-like than other South American States. The military dictator, so common elsewhere, has not appeared in Chile. There has been, of course, one revolution, that of Balmacedan, but it was not of the usual South American type. Chile has come out victorious from a severe struggle against Peru and Bolivia. In these wars the Chilian people have distinguished themselves. They are of mixed Spanish and Indian descent, and brave, obstinate, enduring, and patient to the uttermost, but possibly cruel and blood-thirsty in success. It is these Chilians who do the hard labour of the nitrate mines, which are financed in London, and managed by British, chiefly Liverpool, firms. It is also this Chilian who does the agricultural work of the great fertile valley. The coffee-coloured water from some Andes stream is led for miles along broad channels, shaded by tall poplars, and distributed through those magnificent pasture lands, where three cows are kept on an acre, not three acres to a cow as in poor old Scotland. The forage alfalfa may yield five cuttings in the year. Few sheep are seen, because the water is said to contain a parasite liver-fluke. Corn crops are magnificent, and are sometimes thrashed after a very prehistoric manner. A troop of mares is driven into a large circle covered with corn, and they are made to gallop round this for twenty minutes, then sent in the other direction. They are turned out and the corn shovelled up, and a second supply is laid down, the process being continued by a second troop, and so on. The mares are kept for breeding, so that the process is not so wasteful as it looks or sounds. But it is dying out, and the wonderful Australian machine which reaps, thrashes, and puts into sacks all by itself is coming in. The system on these big estancias or farms is a very curious one, and directly descends from the Spanish days. The Chilian labourer or *inquileno* is given a house, made of a dobe or dried mud-brick, and as much land as he wants for raising beans and vegetables. He generally keeps pigs, chickens, possibly goats or sheep. He has always a horse, and many dogs, which guard the premises. As a rule he has a large family. For this he or one of his family has to work for the proprietor whenever called upon to do so. Taking current wages this amounts to a rent of

possibly £10 to £30 per annum. The system seems antiquated and oppressive, but I do not think that the Chilian inquileno, though sometimes hard worked and poor, is by any means so badly off as the poor in our large cities in Scotland. The climate is glorious; no one ever seems hungry, and though it is said that there is much aquardiate or brandy drunk, one sees extremely little drunkenness—far less than in Scotland. The exports of agricultural products in 1901 amounted to £336,076. The Government fosters agriculture. I found an agricultural school at Chillan, a smaller town than Dumfries, where the care of vineyards and other agricultural practice was thoroughly and scientifically taught. Down the great central valley of exceeding fertility, irrigated after the Luca fashion and managed on old Spanish lines, runs a main line of railway. Locomotives and running-stock are American, but the travelling is exceedingly comfortable. Trains start from big cities at a convenient hour, stop for 25 minutes to lunch, and stop at a big city for the night. About dinner time, at every station, the traveller may choose plums, peaches, cherries, and other fruits from long files of baskets. The restaurants are excellent, and the fares by rail are extremely moderate.

Going south, after crossing the Bio Bio, which was for centuries the Spanish-American frontier, the whole character of the land and economy changes. The clearing of the forest and the formation of farms can be seen in every stage. Some 2500 acres of forest can be bought for £1000, on easy terms. Fencing and surveying is compulsory. First the smaller trees, creepers, and brushwood are cut through, and then the whole is set on fire. The blackened stumps of the larger trees are left till they rot away, standing in a melancholy fashion out of the rich, waving wheat. Wheat is grown till the land can no longer produce a harvest, and then it is used as pasture. Such a farm, if carefully tended, is said to yield about £250 a year. This southern part of Chile is rapidly losing its woods, and the farmers are often German, English, or Chilian. In this modern agricultural development Germans play a large part. Valdivia is wholly German, and very excellent and cheap beer and lager beer is made and exported through all Chile. Though the German language is kept up, and Deutschland is very conspicuous in convivial meetings and songs about the Vaterland, yet I am sure

not one man of them would ever return to Germany on any consideration whatever.

At Sandy Point, in the Straits of Magellan, founded by Commodore Byron in 1764, a pastoral development is taking place on Australian lines. This place is the scene of Sarmiento's disastrous colony. Four hundred men and 30 women were left there, and by the end of the second winter 15 men and three women were left alive. A solitary survivor was taken away by Cavendish in 1587. But at Sandy Point there is a thriving town of 7000 or 8000 inhabitants, and in Tierra del Fuego Scotch and New Zealand shepherds with collies watch over thousands of sheep. The company which owns this land is said to have thriven exceedingly. My information leads me to think that for every £100 originally subscribed is now worth £3100. All depends on the simple fact that the sheep corresponds to the guanaco, and that the cold, inclement climate produces fine wool. At present many land companies are starting all along the great Moreno valley round the big lakes; but I should warn you that though there is rich and good land and excellent grazing, there are also many dry, arid tablelands, where even the ostrich hunter dare not go for fear of losing his horse and dogs by thirst.

Sawmills, tanyards, etc., are often German. Frenchmen are also common in Chile, and they have a large share in working the vineyards, in clothing, articles of luxury, and all sorts of expensive and dainty frivolity. A Frenchman introduced the snail *Helixaspera*, which is a Parisian dainty, and it is now a pest in every vineyard. The richer Chilean families often go to Paris, and all endeavour to keep up with Paris fashions. Thus the Chilean lady begins to spoil her complexion with powder and paint at a very early age. The streets of Santiago are paraded by jeunese doree of an effeminate and languid type, who make admiring remarks and criticisms on the ladies that pass. "Has not the little one a sympathetic appearance!" No lady ever dares to walk in the street without an escort. The ladies are usually invisible until twelve and one o'clock. After dinner, in the beautiful cool evenings of Chile, all the better classes patrol the squares or plazas, which are often beautifully laid out with trees and flowering shrubs, while an excellent band plays. The children attend this evening parade. Even quite small girls of four or five years old will take care to throw the sunshine of her

smiles on every man or boy present. These ornamental parts of the towns show considerable taste on Italian and Parisian lines. It is astonishing to see what a magnificent effect a few square yards of stucco coloured a delicate pink and gaily painted railings can produce. This sort of rococo and stucco buildings and bad statuary might, however, have been avoided in some cases. The old rock of Sta Lucia, the original camp of Pedro de Valdivia, and the cradle of Santiago, might surely have been left in its original stern ruggedness. It is now so covered with gilt railings, stucco parapets, gardens, and restaurants that it only reminds one of the decorations usual on boxes containing inferior cigars. Santiago with its 292,000 inhabitants, Valparaiso with 136,000 inhabitants, and a large residential suburb, Vina del Mar, were to us the least interesting parts of Chile.

It is in these towns also that the health of the people appears to be worst, that the people are worst off, and that religion seems to be at its lowest. In the smaller places there is a larger percentage of men attending more regularly than in any ordinary London church. Indeed, through Chile the priests have great power. This is shown by one astonishing fact. Every woman in the country, whatever her position in life, attends Mass in a black manta made of various materials, but entirely without decoration or ornament. These cities also suffer as regards health. Typhoid and other fevers are common, but in some ways they are in front of us in Dumfries, for every wall and tramcar and seat is placarded with agonised appeals to the public not to expectorate in public places. Over the most of Chile the climate seems to be excellent, and the only complaint seems to be that there is an extraordinary infant mortality. But when linen is habitually washed in what may quite fairly be called open sewers, when little children play with mangy dogs and measly swine on what we call here a free coup, it is absurd to expect anything else. Even amongst people quite well off, babies dine at table-d'hotes, and cry for a second glass of beer. On the whole, however, this vigorous little republic which calls itself the England of the Pacific makes an excellent impression on the stranger than is possible at home. Moreover, with a considerable experience of my fellow-countrymen when exiles abroad, Chile is the one place I have ever known in which everybody has something good to say of his Babylon, and, as a matter of fact, the descendants of

English or Scotch people become entirely Chilians in speech and sentiment. The mixture of races and civilisation never failed to interest me. I passed New-Year's Eve at Angol in the company of a German from Hamburg in the hotel of a Basque from the Pyrennees. Telegraph and telephone wires cross unpaved streets. Under them rides an Indian woman with her baskets. Donkeys with loads of sticks stumble into the town from their fifteen mile journey. Bullock carts with solid creaking wheels come to the railway station, where American locomotives bring in polite Chilian officials, German chemists, Italian shopkeepers, French hotel-keepers, British merchants, pure Indians in blankets, and Chilian workmen.

25th November, 1904.

Chairman—The PRESIDENT.

NEW MEMBERS.—Miss L. H. M'Connell, Milnhead; Mrs M. A. Thompson, and Miss Bell, Castle Street, Dumfries; and Mr Edward J. Hill, Ladyfield.

FORESTS: WILD AND CULTIVATED. By Dr AUGUSTINE HENRY, M.A.F.L.S., &c., Kew.

In this lecture Dr Henry gave an interesting account of the wild forests of the world, and contrasted them with those which were cultivated, pointing out the errors in the management of most cultivated forests in this country, and contrasting them with those which are properly managed. The lecture was illustrated with limelight views. It has been published in the "Economic Proceedings of the Royal Dublin Society." Vol. I., Part V., No. 11, under the above title.

16th December, 1904.

Chairman—Mr R. SERVICE, Vice-President.

NEW MEMBER.—Mr Jas. Hewitson, Park House, Dumfries.

EXHIBITS.—In addition to the coins shown by Rev. H. A. Whitelaw and referred to in his paper, a collection of German and Hamburg coins, by Miss Cresswell, Nunholm; coins of Charles I. and the Commonwealth, by Mr Jas. Davidson; Scottish and English coins, by Master Wm. Dickie.

BIBLICAL MONEY AND COINS OF THE HOLY LAND. By Rev. H. A. WHITELAW.

Ranging over an extensive field and beginning from the earliest ages, the lecturer showed the development of the idea of "purchase" from the principle of "barter" or exchange; how articles different in kind became related to each other by reference to a common standard of weight; how definiteness of weight (cf. Job xxviii. 15; Zechariah xi. 12) was quickly followed by definiteness of shape (cf. Genesis xlii. 25; Deuteronomy xiv. 25; II. Kings xii. 9; etc.). Not, however, till the seventh century B.C. did the medium of purchase take the form of coin, while the only coined money mentioned in the Old Testament, or connected with the Holy Land in any way during that period, was the Persian Daric or Drachm (B.C. 538-529), in gold and silver. (See I. Chronicles xxix. 7, Ezra ii. 69, viii. 27, and Nehemiah vii. 70-72.) Though commonly supposed to have been first coined by, and named after, Darius Hystaspes, of the Book of Ezra (the father of Ahasuerus of the Book of Esther and grandfather of Artaxerxes of Nehemiah), the lecturer inclined to the view that they were coined first by Cyrus, the conqueror of the fifth and last of the Lydian Kings, Cræsus, whose wealth of jewels and money fell into the conqueror's hands, and that the name given was from the Persian word "Dara," meaning "king," or "sovereign," a term analogous to that in use in our own day. The period between the Old and New Testaments occupied a large section of the lecture. In this, the series known as the Maccabæan coins was dealt with, beginning with the Shekels of Simon Maccabæus (B.C. 140-135), and ending with the copper coinage of Antigonus (B.C. 40-37), the last of the line. From the types displayed on these pieces it was interesting to observe the fluctuations and gradual deterioration in the national and religious idea of the Jewish people. Under the New Testament section came the coins of the Idumæans and those of the Roman

Procurators along with the aurei, denarii, and brasses of the contemporary Roman Emperors. Here also were exhibited the pieces specified in the New Testament Scriptures (e.g., the stater, the penny, the farthing, the mite, etc.). A final brief section was devoted to the "Coins relative to Judaism and Jerusalem subsequent to New Testament times." Here were noted the coins of the First Revolt in the reign of Nero, the Judaea Capta and Devicta coins of Vespasian and Titus, and others celebrating the conquest of Judaea, the coins of the Second Revolt under Simon Bar Cochab, and the Aelia Capitolina coins of Hadrian and subsequent Emperors. Among the pieces exhibited from the cabinet of the lecturer were a Lydian Electrum (700-568 B.C.), Aegina Stater (early 700-550 B.C.), another (later type, B.C. 550-456), Persian Daric (B.C. 538-529), Siglos, Alexander the Great (Tetradrachms), Ptolemy I. Soter, Antiochus IV. Epiphanes, Antiochus VII. Sidetes, Jewish Shekel and Half Shekel, John Hyrcanus I., Alexander Jannaeus, Alexandra, A. Plantius (Judæus Bacchius), Antigonos, Herod the Great, Herod Archelaus, Herod Antipas, Herod Agrippa I., Herod Agrippa II., the Procurators (Ambivius, Rufus, Gratus, Pontius Pilate, and Felix), Augustus' Stater, Tribute Penny, Simon Nasi, Judaea Devicta, Simon Bar Cochab, and Crusader Penny of Amalric II. These, with aurei, denarii, and brasses of Mark Antony, Julius Cæsar, Cæsar Augustus, Tiberius, Caligula, Claudius, Nero, and others, enhanced greatly the interest of the lecture.

20th January, 1905.

Chairman—Mr G. F. SCOTT-ELLIOT, President.

NEW MEMBERS.—Mr John Maxwell, Tarquah, Maxwelltown; Mr Harry Edgar, Ferguslea, Maxwelltown.

I.—BURIAL URNS FOUND IN MAXWELLTOWN PARK. By Mr JAMES BARBOUR, F.S.A. (Scot.).

Mr Barbour read an interesting note describing two Burial Urns found in 1904 in the field acquired by the Burgh of Maxwelltown for a public park. The large urn had been broken by

the workman's pick, and only pieces were recovered, but the smaller, though imperfect, was nearly complete. Both urns contained a considerable quantity of calcined bones. Mr Barbour described the form and ornament of the urns, which may be seen in the Society's Museum, and presented them to the Society with the permission of the parties or authorities who had any interest therein.

The Chairman introduced Mr John Maxwell, travelling commissioner on the Gold Coast, who exhibited a number of the products of the colony, which he presented to the Society, and gave a number of details respecting these, for which he was heartily thanked.

II.—THE WEATHER OF 1904. By Rev. W. ANDSON.

Before submitting my annual report of the weather of 1904, I may mention that the instruments used, consisting of barometer, certified maximum and minimum self-registering thermometers, dry and wet bulb thermometers, and rain gauge, were inspected by Dr Buchan, secretary of the Scottish Meteorological Society, in September last, and on being compared with his standard instruments were found to vary so little from the standard that it was not considered necessary to apply corrections to the readings. I submit first of all a table, which contains a summary of all the observations taken during the year, which will be printed as usual in the Transactions, but which I need not read now. The remarks which follow are founded upon these observations, and intended to bring out the general character of the weather of the past year, as compared with other years embraced in the period of observation.

Beginning with the barometer, I find that the highest reading of the year occurred on the 21st January, when it rose to 30.655 inches; and the lowest on the 13th February, when it fell to 28.552 in., giving an annual range of 2.103 in. The mean annual pressure (reduced to 32 deg. and sea level), was 29.813 in. This is about one-tenth of an inch below the average of the last eighteen years; and is hardly what one would have expected in an exceptionally dry year. But it may be explained by a series of extremely low readings in January and February, and especially in the latter month, which had readings below 29 inches on

Report of Meteorological Observations taken at Dumfries during the year 1904.

Lat., 55° 4' N.; Long., 3° 36' W.; Elevation above sea level, 60 feet; Distance from the sea, 9 miles.

1904.	BAROMETER.				S.-R. THERMOMETER. In Shade, 4 feet above grass.								RAINFALL.			HYGRO-METER.		Relative Humidity. Sat. = 100.
	Highest in Month.	Lowest in Month.	Monthly Range.	Mean for Month at 32° and Sea Level.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean Maximum.	Mean Minimum.	Mean temperature of Month.	Heaviest in 24 hours.	Amount for Month.	Days on which it fell.	Mean Dry Bulb.	Mean Wet Bulb.	Temperature of Dew Point.		
Jan.	30.655	28.650	2.005	29.784	50.	29.	21.	44.2	35.4	39.7	0.53	3.32	24	40.	38.2	35.6	85	
Feb.	30.254	28.552	1.702	29.491	48.	22.5	25.5	41.5	32.8	37.1	0.44	2.55	20	37.2	35.7	33.9	85	
Mar.	30.460	29.147	1.313	29.967	57.	26.	31.	48.1	32.4	38.7	0.81	2.57	16	38.3	36.5	34.	84	
April	30.310	29.201	1.109	29.809	67.5	32.5	35.	54.5	40.3	47.4	0.52	2.88	22	46.3	43.	38.9	77	
May	30.215	29.361	0.854	29.887	72.	38.8	38.2	53.2	47.3	50.6	0.53	2.08	15	50.7	46.5	42.1	73	
June	30.377	29.270	1.107	30.020	81.7	41.	40.7	66.1	46.6	56.3	0.55	2.03	13	56.8	52.2	47.6	72	
July	30.341	29.669	0.701	29.987	84.7	46.	38.7	69.3	52.2	60.7	1.40	2.08	16	60.3	56.4	53.2	77	
Aug.	30.296	29.428	0.868	29.952	79.	38.	41.	66.8	49.3	58.1	0.82	3.85	17	58.1	54.8	51.8	80	
Sept.	30.377	29.670	0.707	30.036	70.5	35.	35.5	63.4	45.	54.2	0.53	2.02	13	53.4	50.6	47.8	82	
Oct.	30.497	29.123	1.374	30.046	63.	29.8	33.2	56.	41.4	48.7	0.56	1.89	14	48.2	46.	43.6	84	
Nov.	30.510	30.200	1.310	29.981	56.	19.5	36.5	46.9	36.4	41.0	0.59	2.55	16	43.5	41.5	38.6	84	
Dec.	30.567	28.878	1.689	29.825	53.	19.5	33.5	42.5	32.6	37.6	0.64	2.84	18	38.4	37.2	35.6	88	
Year..	30.655	28.552	2.193	29.813	84.7	19.5	65.2	54.5	40.7	47.6	1.40	31.26	204	47.6	44.9	41.8	81	

WIND—

Days ...	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Var. or Calm.
9	31	37	52	41	93	57	40	5	

six days, and a mean for the month of only 29.491 in. The only months which had means above 30 inches were June, September, and October, and these were, on the whole, the finest months of the year. Cyclones, with their accompanying storms of wind and rain, were most frequent in January, February, and December, and in the first half of April; but taking the year as a whole, they were less frequent than usual, and there was a preponderance of anti-cyclonic weather.

We now pass on to temperature, that exceedingly important element in weather conditions—it being understood that the readings are all of thermometers kept constantly in the shade and four feet above the grass, in a Stevenson screen. The highest single day temperature of the year occurred on the 11th July, when a reading of 84.7 deg. was recorded. But twice also in June there were readings in excess of 80 deg., viz., 80.5 deg., on the 4th, and 81.7 deg. on the 5th. The absolute minimum, or lowest single day temperature of the year, occurred on the 26th November and the 11th December, when it was 19.5 deg. This gives an annual range of 65.2 deg. The warmest month of the year was July, with a mean of 60.7 deg., and the next warmest, August, with a mean of 58.1 deg. The coldest month was February, with a mean of 37.1 deg., and the next coldest December, with a mean of 37.6 deg. January, March, April, July, and October had monthly means slightly above the average, and the others means slightly below; but when the excesses and deficiencies were compared they were found almost exactly to balance one another, the former amounting to 7.2 deg. and the latter to 6.8 deg., so that we are prepared to find that the mean temperature of the year is just about average. It comes out at 47.6 deg., which is as nearly as possible the mean of the last eighteen years. It has been as low as 46 deg., and as high as 49 deg. But the exact mean is 47.7 deg. On the whole the season was exceptionally favourable to vegetation. But this was not due to any excess of warmth, as is shown by the fact that the mean annual temperature, as we have just seen, was barely up to average, although there was a fair number of really warm days, with temperatures ranging from 70 deg. to 84 deg. But the explanation is rather to be found in the distribution of the successive periods of moderate rainfall and dry sunny weather, which was such as to promote in a re-

markable degree the growth, and ripening, and safe in-gathering of all kinds of crops. The first ten days of April were, indeed, unfavourable, owing to the boisterous and wet weather which prevailed, resembling that of March rather than that of April, and illustrating the well-known saying about the "borrowing days"—"March borrowed from April three days, and they were wild." But in this case it was not three days only, but ten days, or a whole third of the month. In consequence there was considerable delay in the seed-time, and the fear was expressed that the harvest might be late again, as in the preceding year. But so favourable did the weather become in the latter part of April and in the succeeding months, that the harvest, instead of being late, was rather earlier than usual, as well as abundant. The conditions of weather which secured this happy result were so well expressed in a recent letter in the "Standard," entitled "The Farmer's Year," by a Nithsdale farmer, that I think I cannot do better than quote his words. He says: "The season, taken all over, has been remarkable for long spells of fine weather, followed by short spells of showery weather, beginning with a good wet day and gradually tapering off." This occurred again and again in the course of the summer months, ending in ideal weather in September and October. I have already referred to the verification in April of a well-known weather saying about the borrowing days. There is another which relates to the month of October, which was as remarkably verified in the past year. It is called St. Luke's little summer. St. Luke's Day is the 18th of October, and about that period the weather is often remarkably mild; and it was so in a remarkable degree last year. On calculating the temperature of the seven days, beginning with the 17th and ending with the 23d, I found that the mean temperature of that period was 53 deg., whereas the average mean for the whole month is only 47.6 deg. These current weather sayings have reference generally to comparatively warm or cold periods occurring at seasons when weather of the opposite kind might have been expected. And there is another relating to November, to which I may refer, as verified in the past year. It is called St. Martin's little summer, beginning with the 11th, which is Martinmas. The warmth of the week beginning on that day and ending on the 17th was something abnormal, viz., 48 deg., which is five degrees above the mean of the whole month.

But shortly afterwards the temperature underwent a sudden and complete change, passing from spring-like mildness to the severity of mid-winter. Between the 20th and the 26th occurred a fall in temperature to 19.5 deg., and the heaviest snowfall of the year, or even of a good many years, measuring eleven inches in depth on the ground, and causing serious obstruction to traffic in many parts of the country both by road and rail.

I now pass on to the rainfall of the year. The number of days on which precipitation took place in the form of rain or snow was 204 (rain, 198; snow, 6). And the amount for the year was 31.26 inches. That is considerably short of the average of the last eighteen years, to which the period of observation extends. It is in striking contrast with that of the previous year, 1903, which measured no less than 50 inches. That, however, was the rainiest of the eighteen; but when the record of the past year is compared with the average of all these years since 1887, it falls short by fully six inches, being 31.26 in., as compared with a mean of 37.31 in. The other years most closely resembling it were those of 1887, with a record of 30.99 in., and 1902, with a record of 30.90 in., both slightly less. The rainiest month was August, which had 3.85 in., and the next, January, which had 3.32 in.; and, curiously enough, the driest month was October, which had only 1.89 in., whereas in the previous year it was the rainiest month of the whole year, with over eight inches, and in ordinary years has an average of nearly four inches. Most of the months were drier than usual, with the exception of April, which had 2.88 in., as compared with a mean of 2.12 in. One of the most notable facts in connection with the rainfall was the unusual dryness of the last three months, which are usually the rainiest. The average amount for these months is over eleven inches, but last year it was only between four and five, which was less than half. There was only one day in the year that the amount recorded for the twenty-four hours was in excess of an inch. That was on the 15th July, which is St. Swithin's Day, when 1.40 in. fell, being fully one-half of the whole amount for the month. The tradition is, that if it rains on St. Swithin's Day it will rain for forty days thereafter. This led me to institute an inquiry how far this well-known weather saying was justified by the facts, as ascertained by actual observation. I accordingly drew up a table, which showed: 1st, Whether St. Swithin's Day

was wet or dry; 2d, on how many of the forty days following rain fell; and 3rd, the amount of rain for these days. The result, as shown by the table, was that there was not a single year in the past eighteen on which rain fell for forty days after the 15th. The greatest number was 34, in 1895, with the heaviest rainfall for the period, viz., 7.93 in., and the additional circumstance that St. Swithin's was dry. This was enough of itself to upset the theory. But in other respects also the facts were against it. I may mention that I sent a copy of this paper to Dr H. R. Mill, the editor of the "British Rainfall," who inserted it in the next number of his meteorological magazine. It drew forth two communications on the subject from other observers in England, both of whom practically agreed with the conclusions to which I had come. One of them particularly, who seemed to be an official in the Greenwich Observatory, and collated the Greenwich rainfall observations extending over 64 years, gives as the result of his calculations that a wet St. Swithin's entails on an average seventeen wet days out of the next forty, with a total rainfall of 3.13 in.; and a dry St. Swithin's brings the same number of wet days, with an average total rainfall of 3.33 in. This surely is sufficient to explode the old legend as a baseless superstition. And neither the farmer nor the pleasure-seeker need henceforth be unduly depressed by a wet, nor unduly elated by a dry, St. Swithin's, as the strong probability is that there will be very little difference in the kind of weather which follows in either case.

In connection with this part of the subject, perhaps it is right that I should notice the occurrence in this neighbourhood of the somewhat rare phenomenon of a "waterspout," which did a great deal of damage to the district in which it fell. The time was the 23d of June, and the district the upper part of Kirkmahoe and lower part of Closeburn, but extending eastward as far as Courance, in Kirkmichael. It seemed to come down upon Auldgirith Hill about 4 p.m. in a great body of water, which rushed with tremendous violence in different directions, part towards Auldgirith railway station, which was flooded, with a good deal of injury to the embankment; part by Forest farm and Boatrigg; and part by Dalswinton Mill, the gable of which was wrecked and the sawmill dam washed away, and cutting its way thence by levelling the stone dykes on each side of the road

to Braehead, it reached the public road between Dalswinton Lodge and Boghead Bridge, cutting it up to the depth of four feet and thirty yards in length, and depositing great quantities of stones and mud upon the Dalswinton meadows. Part also came down upon the Duncow Burn, flooding the houses of the village, and carrying along with it great deposits of stones and mud. At Courance also, in Kirkmichael, either a separate waterspout, or more probably a part of the same, came down upon the Garrel, carrying havoc in its progress and causing no small amount of damage. The Garrel passed by a culvert below the Dumfries and Moffat Road, and the culvert being blocked, a chasm was made in the road at that point extending to a length of 150 feet and 25 feet in depth.

With regard to the hygrometer observations, the mean dry bulb reading for the year was 47.6 deg., as ascertained from the daily morning and evening readings, and exactly the same as the mean annual temperature calculated from the daily maxima and minima; while the mean wet bulb was 44.9 deg. From these values the mean temperature of the dew point comes out at 41.8 deg., and the relative humidity at 81, saturation being equal to 100. This indicates a dryness a little above the average, corresponding with the fact that the rainfall was decidedly under the mean.

The records of wind direction vary little from what is usual. The wind which prevailed during the greatest number of days, as it never fails to do, was the south-west, which had 93 days. The next was the west, with 57. And if we compare the northerly and easterly with the southerly and westerly, we find as the result that the former blew on 129 days and the latter on 231 days, while a few were calm or variable.

THE WEATHER IN RELATION TO HEALTH. By Dr MAXWELL ROSS.

Dr Maxwell Ross made the following remarks:—

He noticed the fact that the highest temperature recorded in Dumfries was in July, and the reading 84.7. He thought that was the highest record at any of the sixty meteorological stations in Scotland. A somewhat similar occurrence took place in the month of April. The absolute maximum was observed at Dumfries on 19th April, being 67.5. The weather sayings, about St.

Luke's and St. Martin's little summers had been very remarkably verified in 1904. The observations also afforded an illustration, in the case of St. Swithin's, of the way in which such weather sayings could be corrected. One naturally wondered, in view of the destructive evidence adduced, how such a saying had obtained currency. He thought an explanation might be found in the fact that parties had been somewhat careless as to the way in which they phrased their weather prophecies. What was probably in their minds was that the weather conditions about that time of the year were fairly constant; consequently that if the day were fine there would probably be a continuance of fine weather; if you had bad weather it would probably continue for some time. In "Poor Robin's Almanac" (1697) the St. Swithin legend was thus expressed:—

"In this month is St Swithin's Day
On which if that it rain, they say
Full forty days after it will,
Or more or less, some rain distil."

We found the same tradition in Italy with regard to St. Gallo's Day. It was said in Tuscany that the weather on St. Gallo's Day would prevail for forty days. The poet Gay ridiculed such prophecies:—

"Let not such vulgar tales debase thy mind;
Nor Paul nor Swithin rules the clouds and wind."

There were similar popular sayings regarding other days in July:—

"If the 1st of July it be rainy weather,
It will rain more or less for four weeks together."

"If it rains on St. Mary's Day (2nd July), it will rain four weeks." "If it rains on first dog day (3rd July), it will rain for forty days together." Regarding 4th July:—

"Bullion's Day, gif ye be fair,
For forty days 'twill rain nae mair."

"If it rains on July 10th, it will rain for seven weeks." These all pointed to a general conviction that the weather conditions which were prevalent in the early part of July would probably continue for some time. Dr Ross proceeded to remark on the mortality records of Dumfriesshire for the past year, with a view to indicating how far the experience corresponded with the "seasonal mortality curves" of Sir Arthur Mitchell and Dr

Buchan, while pointing out that, of course, no conclusion could be drawn except from data extending over a wide area and a long period.

10th February, 1905.

Chairman—The PRESIDENT.

NEW MEMBER.—Mr C. R. Dudgeon, Cargen.

EXHIBITS.—From Mr R. Service, a bunch of the marble gall of the oak, a specimen of the rough-legged buzzard (a male) taken in Corsock on January 6th, 1904, during the migration which took place during the season 1903-4, a pair of eggs of the rough-legged buzzard, taken in Lapland about 55 years ago; from Mr Montgomery, fruiterer, a living specimen of the small tortoiseshell butterfly, taken that morning from a case of oranges from Palermo, Sicily; from Miss Thomson, Langlands, pistol left by one of Prince Charlie's party on its way through Dumfries, seal from a D.D. certificate in 1675, fragment of a letter in cipher from Guy Fawkes, stone pipe from New Zealand, and pipe-head found in carriage of Prince Menschikoff after the battle of Alma; from Mr Waddell, a number of geographical models in relief of districts in this locality; from Miss Cresswell, a richly embroidered coat of period of Elizabeth, which belonged to Sir Philip Sidney, and carved tortoiseshell snuff box tops; from Mr Harry Edgar, a rare collection of old British stamps, including a specimen of the first issue; from the President, specimens of Egyptian cotton; from Mr R. Service, jun., a sixpence and a shilling of William III., recently found at Jane-field Nurseries, and a Burns relic, being a collar which belonged to Jean Armour; from Mr John Corrie, Moniaive, a specimen of the stoat in its winter coat of white.

I.—THE LARCH DISEASE. By the PRESIDENT, on behalf of Mr W. MURRAY, Murraythwaite.

The discovery has been made that the Japanese larch can be attacked by this pest of our Scottish woods. This discovery is due to Mr W. Murray of Murraythwaite, who sent specimens of

Japanese larch which were certainly attacked by the fungus. Dr Masee, of Kew, who is the best authority in Britain on the subject, has pronounced that the fungus is the real larch-canker, so that there is no doubt about the matter.

The trees were grown from seed brought by Mr W. Campbell from Japan, and planted out at Murraythwaite in the autumn of 1899. They are in a pure plantation of Japanese larches (*Larix Leptolepis*), but very close to a plantation of the common larch, which is badly affected by the disease. As only two trees of the Japanese seem to have been touched, it is certainly less subject than the common larch, at any rate at present.

The fungus *Dasyscypha Willkommii*, or *Peziza calycina*, is found on flattened deformed parts of the branches. The fruit (about the height of a capital letter) is whitish on the outside, ending above in a tiny orange-yellow cup. Several of these fruits are usually scattered over a deformed swelling of the branch. The orange cup contains thousands of spores, which are carried by the wind or insects to other trees. If a spore happens to fall on a young twig gnawed by a beetle or by squirrels, or on a branch accidentally peeled or broken in any way, it begins to grow, and forms a delicate cobwebby mass of threads, which develops between the wood and the bark, absorbing food which ought to nourish the tree.

Sometimes the tree by a great effort cuts off the injured branch by a sheet of cork and recovers, but more usually the fungus lives on, year after year, destroying its health and vigour.

The fungus is decidedly worst in damp, low-lying places; on mountain sides even the common larch sometimes escapes, as, for instance, at Dalswinton (on the authority of Mr Hattersley). But the present universal system of growing larches in pure plantations, without any other trees between them, must, of course, be particularly favourable to the spread of this or any other fungus or insect pest. Almost every spore of the thousands in a cup will reach another larch, instead of some other tree, which it would not be able to attack, and in this case, of course, it would perish miserably.

These pure plantations are, therefore, dangerous; the best continental authorities recommend a mixture of larch with deciduous and other conifers, for other reasons as well as the above.

II.—LOCAL BIRDS. Communicated by Mr ROBERT M'CALL,
Carsethorn, Kirkbean.

The annexed list of local birds is not offered as complete, but as an attempt to record those captured or recognised by a collector and observer on the coast of the Solway. All the birds named have been captured or seen within the limited area embraced between Colvend and Newabbey, and were mainly seen in the parish of Kirkbean and its coast, or on the Solway opposite. The list of land birds is incomplete, as the observer has not much opportunity of seeing those frequenting the woodlands.

The following are in his own collection, and of his own stuffing:—

Duck, Eider.	Tern, Sandwich.
„ Common Teal.	Water Rail.
„ Golden Eye.	Merganser, Red-breasted.
„ Wigson.	Ousel, Ring.
„ Long-tailed.	Phalarope, Grey.
„ Pintail.	Razor Bill.
„ Pochard.	Redshank, Spotted.
„ Tufted.	Sanderling.
„ Shoveller.	Sandpiper, Purple.
Fulmar, Sheldrake.	Skua, Richardson's.
Gannet.	Blackbird.
Grebe, Great Crested.	Cole Tit.
„ Red-throated.	Crested Wren.
„ Little.	Harrier Hen.
Greenshank.	Magpie.
Kingfisher.	Owl, Long-eared.
Tern, Black.	Peregrine.
„ Common.	Pheasant.
„ Arctic.	Sparrow Hawk.
„ Lesser, or Sea Swallow.	Starling.

CAPTURED OR OBSERVED IN DISTRICT.

Cormorant.	Dunlin.
Curlew.	Godwit, Bar-tailed.
Diver, Great Northern.	Goose, Barnacle.
Duck, Scaup.	„ Bean.

Goose, Brent.	Bewick's Swan.
„ Pink-footed.	Knot.
„ White-fronted.	Mallard.
Goosander.	Petrel, Fork-tailed.
Guillemot, Common.	Plover, Ring.
Gull, Common.	Redshank.
„ Great Black-backed.	Sandpiper, Common.
„ Glaucous.	Scoter, Common.
„ Herring.	„ Velvet.
„ Lesser Black-backed.	Sea Pyet, or Oyster Catcher.
„ Brown-headed.	Skua, Richardson's.
„ Kittiwake.	„ Buffon's.
Heron, Common.	Turnstone.
Hooper Swan.	

LAND OR FRESH WATER BIRDS.

Blackcap, Warbler.	Landrail.
Bullfinch.	Linnet, Common.
Bunting, Reed.	Martin, House.
„ Corn.	„ Sand.
„ Snow.	Merlin.
Buzzard, Common.	Moor (Water) Hen.
Chaffinch.	Titlark.
Chiff-chaff.	Nightjar.
Coot.	Owl, Tawny.
Crow, Hooded.	„ Barn.
„ Carrion.	Partridge.
Cuckoo.	Pipit, Rock.
Dipper, or Water Ousel.	Plover, Golden.
Dove, Rock.	„ Green, or Pewit.
„ Stock.	„ Grey.
Goldfinch.	Redbreast.
Fieldfare.	Redpoll, Lesser.
Grouse, Black.	Redwing.
„ Red.	Rook.
„ Sand, Pallas's.	Siskin.
Hobby.	Skylark.
Jackdaw.	Snipe, Common.
Jay.	„ Jack.
Kestrel.	Sparrow, Common.

Sparrow, Hedge.	Wagtail, Grey.
Swallow.	„ Yellow or Ray's.
Swift.	Waxwing.
Thrush, Common.	Whinchat.
„ Missel.	White-throat.
Tit, Blue.	Woodpecker, Greater Spotted.
„ Great.	Woodcock.
„ Long-tailed.	Wren.
„ Tree Creeper.	Wood Pigeon.
Wagtail, Pied.	

III.—EXTRACTS FROM ANNAN BURGH RECORDS, FROM 1682 TO 1712. By Mr JAMES BARBOUR.

RIDING OF THE MARCHES.

30th October, 1682.—The said day the whole inhabitants were ordained to wait upon the Magistrates and Town Council the morrow, upon their best horses and in their best apparel, and that before the sun-rising, for riding of the town marches, and that under the pain of forty pounds Scots money, to be paid by each person inhabitant in case of failure.

30th September, 1697.—The marches to be ridden this year. The whole inhabitants except the present magistrates are to ride time about, and to carry the cripples time about.

REFERENCES TO THE PERSECUTION.

27th April, 1683.—The which day the Magistrates and Council ordain the treasurer and customers to pay their expenses when they went out upon the Laird of Claverhouse accounts conform to their respective accounts to be given by each one of them for that effect to the town treasurer.

22nd October, 1683.—Customs let to Pat Galloway, late bailie, for 1100 merks; and that without defalcation, be it peace or war. [He is to pay the full rent even should business be dislocated by civil war.]

14th October, 1684.—The Earl of Annandale chosen provost (his lordship then being 20 years of age). All the Council sworn, and likewise took the test.

8th February, 1689.—Earl of Annandale re-elected provost. Sir Robert Grierson of Lag was admitted burghess and freeman to

give his advice and counsel to the burgh when required. The treasurer was ordained to uplift the custom of that year as from the Earl of Annandale.

THE REVOLUTION.

26th February, 1689.—Bryce Blair chosen commissioner to attend convention of estates appointed to be held at Edinburgh 14th March next in obedience to the Prince of Orange proclamation, to have for his pains two pounds sixteen shillings Scots each day during the sitting of said convention.

THE DOMINIE AND THE TERMAGANT.

25th October, 1685.—Walter Miller, schoolmaster, in Annan, was decerned in ten pounds Scots for striking Marioune Robsone, and the said Marioune Robsone decerned in the like sum of ten pounds for riving of the said Walter Miller's hair.

CONTEMPT OF COURT.

19th October, 1689.—John Davidson, in Seafield, was fined in twenty pounds Scots money for saying in face of the court that the magistrates had not given fair law and that it was like the Abay court wherein there was no law.

GUARDING THE CROPS AND THE FISH.

8th August, 1693.—Enacted that no man or woman be seen among stooks after daylight is past nightly until harvest be done. Enacted that no man or woman shall fish out of their neighbour's nets.

A WOMAN LEECH—ASSAULTS AND BATTERIES.

2nd January, 1694.—Treasurer ordained to pay Sibbild Johnstone, relict of the deceased John Lynding, 10s sterling, and that for curing of five wounds on Robert Johnstone's head, he being wounded by James Lyntone and his sons when the said Robert was employed in the town's business. The which day the persons under-named were decerned to make payment to the procurator-fiscal of the court and the fines after specified for the bloods (assaults to effusion of blood) and batteries (common assaults) committed by them, viz.: Robt. Johnstone, son to the deceased David Johnstone, late bailie of Annan, of the sum of

fifty pounds Scots for a blood and ten pounds money foresaid for a battery committed by him upon John Johnstone, town officer. Item, Harbert Wilkine, fifty pounds for a blood and ten pounds Scots for a battery committed by him upon George M'Leive, in Annan. Item, Christopher Johnstone, son to Adam Johnstone, in Annan, fifty pounds for a blood and ten pounds for a battery committed by him upon John Glover, late servitor to Margrate Wilkine, in Annan. Item, John Davidson, in Seafield, and John Glesters, in Sandhill, each one of them fifty pounds for a blood and ten pounds for a battery committed by each one of them upon one another. Item, the said John Glesters and John Davidson, each one of them in fifty pounds for bloods and ten pounds for batteries committed by each one of them upon another, and all and each one of the said persons decerned to pay the said fines to the procurator-fiscal within term of law under the pain of pccinding and imprisonment till payment be made thereof.

5th August, 1695.—Decerns Janet Smith, in Annan, to pay to the procurator-fiscal the sum of fifty pounds Scots for a blood and ten pounds for a battery committed by her upon Agnes Irving, spouse to Thomas Poll, merchant, of Annan, and one hundred pounds Scots for breaking of the King's free fair, in respect she did it upon the town's fair day.

TOWN CLERK AN OFFENDER.

4th June, 1700.—George Blair, town clerk, found guilty of a blood and riot—fined fifty pounds Scots.

SANITARY REGULATIONS.

14th March, 1699.—No person living within the burgh is to lay any dunghill upon any part of the town street without their fore doors; and no person to build any turf or peat stacks within any part of the high town street. Enacted that the town be causeyed; that there is great need of a mortcloth, which is to be got; and that the magistrates' seat in the church be repaired.

NO DEALING WITH GIPSIES OR "EGYPTIANS."

17th March, 1699.—John Irving absolved from William Gibson's unjust libel given in against him and his wife wherein

Gibson accused him of resetting the Egyptians and corresponding with them and also eating and drinking with them.

IRREGULAR MARRIAGES.

20th March, 1696.—Robert Johnstone, son to the deceased David Johnstone, confessed to irregular marriage over the march, and was fined five hundred merks Scots, conform to Act of Parliament.

4th January, 1702.—George Johnstone confessed irregular marriage and fine 100 pounds Scots conform to Act of Parliament, and ordained to be imprisoned till he satisfy the same.

COUNCILLORS FARMING THE TOWN'S REVENUES.

The customs of the town were let by public roup, but were always taken up by one or other of the magistrates or members of Council, no one bidding against them. On one occasion, however, an outsider made offer and took the customs. Immediate payment was never exacted from any town councillor; but in this case (the only one which he observed in which the lessee was not in the Council) they required him to pay the money before noon of next day under penalty of being fined and losing his bargain. The following is the entry:

31st October, 1695.—Customs set to Robert Johnstone for 1210 merks Scots to be paid betwixt and 12 hours the morrow in the forenoon in Scots money or milned money, and in case of failure to be fined and the custom to be roup'd over again. Failed and fined 100 pounds Scots. The treasurer ordained to collect and uplift the custom and account.

22nd December, 1692.—Customs set to Bryce Blair for 710 merks Scots, the common meadows to John Johnstone of Gallabank for 40 pounds Scots, and the boat set to John Smith for 43 pounds Scots. Enacted that none of the money for which the common goods are set for be disposed upon except my Lord Annandale, provost, his consent be given and precepts under his lordship's hand before disposing thereupon and likewise the persons who have had the common goods in times by past with the magistrates, bailies, and their clerk is to attend the Provost at Lochwood when called and account therefor.

1st November, 1705.—The public town and bridge customs were with consent of William Whyte roup'd and set for £1000

Scots to James Carlyle, late bailie, in case the prohibition upon linen cloth and cattle prohibiting the importation of them from Scotland and England be continued or allowed, or in case of open war betwixt the said kingdoms, then and in both cases, the said James Carlyle, shall only be countable to the Marquis [of Annandale] and burgh for what is received, etc. Moreover, in case the Act of council for the bridge custom be suspended by any merchants or others, the taxman shall have allowance therefore.

30th September, 1697.—The common goods, to wit, the custom, rent of the meadows, boat, and others, is for this year to be bestowed for building a bridge of stone over the north burne and mending the town causey and building a cross and a tolbooth. Customs set to Robert Johnstone for 1260 merks Scots. Boat let for £47 Scots. Walter Miller, schoolmaster, to uplift the feu duties for payment to him of his wages and warrant given.

MEMBER OF PARLIAMENT.

25th October, 1702.—Master William Johnstone of Sheens nominated to represent the burgh in Parliament.

SECRECY IN THE COUNCIL.

27th October, 1698.—Enacted that if any of the Council shall happen to devulge or reveal what shall happen to be spoken, agitated, or done by the Council, they are to be put off and degraded, and that no councillor shall oppose or speak against the magistrates under the like penalty, which is to be put off the Council.

IV.—SEDUM TELEPHIUM. By Mr W. M'CUTCHEON, B.Sc.

Sedum Telephium has got its common name Livelong from the fact of its keeping fresh for a long time after being cut. This property may often be noted in summer and autumn when the grass along the hedgerows is being cut. Should any of these Livelongs be cut, the flower buds will open as usual and set seed when all the other plants around have quite withered. The fleshy leaves contain a great amount of sap, and do not easily dry up, but besides this, numerous rootlets are to be seen springing out from the cut stems and seeking the moist soil.

Last August I cut several stalks of this plant when the flowers were in full bloom, and to test their vitality they were put into a vase without water. In two months or so the leaves had dried up, and fell off at a touch, but the buds in their axils had grown out at least half-an-inch. The shoots were strong and tinged with red, and numerous rootlets were visible. One of the shoots was planted in a pot, but it did not thrive any better than those left on the parent plant. Only at present has it begun to grow to any extent. For the last five months the shoots growing from the withered stem have been entirely dependent on the atmosphere for their supply of moisture, which no doubt they would absorb by means of their aerial roots. The present year's shoots of the Livelong are now fully half-an-inch above ground. An example is shown, as also the small shoot planted off from the withered stalk.

17th February, 1905.

Chairman—The PRESIDENT.

EXHIBIT.—From Mr James Lennox, conical cap of bark used by natives of Uganda.

I.—AN ANTIQUARY'S NOTES. By Mr GEORGE NEILSON, LL.D.

PEEL OF DUMFRIES AND OTHERS.

Well known, and not to archæologists only, is the term "Peel," applied to the small rectangular towers of stone which stud the south of Scotland towards the English march. It is always interesting to break up the record of a term like this and to find that behind it, remote and forgotten, there lies an earlier sense. The records of the War of Independence sufficiently establish these not uninteresting propositions—that in 1298 the Peel made at Lochmaben by Edward I. was made by sawyers and carpenters; that in 1300 the Peel made round about the castle of Dumfries was of timber cut and sawn and shaped in the forest of Inglewood in England; and that in 1302 the Peel of Selkirk, although it had a gateway faced with stone, was essentially of the same character—an enclosed area fortified by a surrounding ditch, the banks of which were crowned by a

carefully constructed stockade. Wages accounts are extant for all these operations, the most significant being that of the carpenters making in the forest of Inglewood the Peel to be set up round about the Castle of Dumfries. A military term like this indicates rapid transformation. In war everything moves fast, and the engineering fastest of all. Down to the 16th century the distinction between a Peel and a castle of stone continued, although by degrees the original significance of the term was in course of being forgotten until at last the term came to mean everywhere an ordinary small Border tower.

Many years ago, when writing an essay on the early Peels of Scotland, I was discussing with Dr Thomas Dickson, then keeper of the Historical Department of the Register House, the Peel of Linlithgow. He then told me he remembered, a long time previously, that John Stewart, secretary of the Society of Antiquaries of Scotland, came one day into his room in great triumph, waving a sheet of parchment, and told him that it was no other than the account for the making of the Peel of Linlithgow, in which, as is well known, Edward I. passed the winter of 1301. But Dr Dickson added that he never knew what became of it and he saw it no more. Well, it happened that just a year ago my friend, Mr J. H. Stevenson, advocate, mentioned to me that he had laid aside in an envelope addressed to me a Linlithgow document. Before he went further, I interrupted him, and repeated Dr Dickson's conversation. "Well," said Mr Stevenson, "the document I have is the missing account." And so it proved, and now you have before you Edward I.'s wages account for operations by workmen of various kinds upon the works of Linlithgow Castle and Linlithgow Peel in the month of September, 1302. Masons, carters of stones, carpenters, blockers, carriers of timber, smiths, ditchers—among them women at $1\frac{1}{2}$ a day—watchmen, wood-cutters, sawyers are here—the same as at the making of the Peel of Dumfries—and there is also a *porte martel*—a man who carried the melle. It shows incidentally that there were not a few Scotsmen in the employment of the English—Inglis, of Bothwell; Adams, of Rutherglen; Henry, of Berwick; Friar Thomas, of Edinburgh. This fine record of the days of usurpation will satisfy anybody who looks at it how methodical was the accounting and book-keeping of Edward I. Here is a part of the account relating to ditchers:—

To 8 captains of twenty of the ditchers each getting 3d a day for 6 days, 12s.

Item, 60 men working under them at 2d a day for 5 days, 50s.

Item, women working under them at 1½d a day for the same time, £4 7s 6d.

Item, 2 porters at 3d a day, 2s 6d.

Item, to 17 porters at 2d a day, 14s 2d.

The entire cost of all the operations on this pay-sheet was £45 8s 0½d, and the "prob" put opposite each summation shows that the account was as carefully checked as it was carefully made out. In mediæval fortification as in the fortifications of the present day, the ditches were reckoned of chief account among the elements of defence. The works at Linlithgow are a sufficient example. A few stone quarries, a handful of masons, a gang of wood-cutters, and another of carpenters did their part. The number of ditchers, however, is decisive of the extent to which the simple element of the ditches must have predominated in the work. The account, you will notice, proved to be a much more permanent affair than the English possession of the place.

THE DEATH OF COMYN—AN EARLY ENGLISH VERSION.

The second item of my Notes is concerning the slaughter of Comyn. I hope that some day this society or some other society elsewhere may take up the full story of this event and endeavour, by a critical examination of all the authorities, to present a collated account. I do not for one moment profess to offer you that to-night. I have many notes made with the view to attempting it some day, but what I want to do now is to give you a copy of an early English account of the incident. It is a transcript made from a manuscript in the Hunterian Library at Glasgow of a passage from a "Brut of Engeland," belonging to the fourteenth century, and is on the whole a very faithful rendering of an Anglo-French original, dating from before 1340. You will agree with me that in respect of quaintness of language and circumstance of narration the English account is one not to be lightly set aside. It begins with the rubric:—

"Howe Robert the Brus chaledged Scottlond. And after this Robert the Brus Earle of Carrike sente bi his lettres to Erles and baronns of Scottlonde that thei scholde come to him to Scone in the morwe after conception of oure lady ffor heige nedis of

Scottlond and the lordes come att the day assigned and att the same day Se Robert the Brus ffaire lordes ful welle ye witte hit hit that in my persone dwelleth the right of the Reame of Scottlonde and as ye witte wel as rightful heire Seth that Se John Baillol was zair kyng that was oure kyng ws hath for sake and al so lefte his lande and thought hit so be that kyng Edwarde of Engeland with wrongful pouer hathe made me to him assent a geijens my wille if that ye will graunt that i be kyng of Scottlonde y schal kepe you ageins kyng Edwarde and a gens alle maner of mene. And with that worde the abbot of Scone aroos and be fore ham alle saide that hit was resoun for to helpe him and the lande to kepe and defende and thoo said in presence of hem alle that he wolde gief him a thousand pounce for to mayntene the londe and alle the othir grauntede the londe to him and with here pouere him to defende and helpe and defied kyng Edward of Engelande and saide that Robert Brus scholde be kyng of Scottlonde.

“Howe Se John of Comyn gayn saide the crounyng of Se Robert the Brus. Lordynges saide Se John of Comyn thenketh up on the treuth and the othe that ye made to kyng Edward of Engeland and as touching my selfe I welle nought breke myn othe fr noman. And so he wente from the companye at that tyme. Wherefore Robert the Brus and all other concented were wondire wroothe and thoo manaced Se Johon of Comyn. Tho ordeigned their another counceil at Dunfris to the whiche come the fforsaide Se John Comyn nought but dwelled ij myle fro Dounfrys there that he was wonede to sojorne and abide.

“How Se John Comyn was wronglych quelled. Whenne Robert the Brus wiste that alle the grett lordes of Scottlond wer comen to Scone saf Se John Comyn that sojournede tho neyg Scone he sent after him spesialith that Se John Comyns schold come to speke with him and up on that he sent after him Sir John Comyns ij brethryn and preide him for to come and spek with him att the Graifieres of Dumfris and tht was the Thursday after candelmasse and Se John grauntede heme for to wende with hem and whanne he hade herde messe he tok a sop and drank and afterwards he bistrod his palfray and rod his way and so he came to Dunfrys and Robert the Brus saw him come at at awyndow as he was in his chamber and tho he made yoie ynonghe and come ayens him and colled (embraced) him abowte the

nekke and made with hym good semblaunt and whenne alle the Erles and Baronnys of Scottlond were present Robert the Brus spak and saide Sers quothe he ye wette wele encheson (because) of this comyng and wherefore that hit es if that ye welle graunte that y mst be kyng of Scottlond as right heire of the londe. And alle the lordes that were there saide with oo vois that he scholde be crownede kyng of Scottlonde and that thei wolde him helpe and him mayntene ageiens alle maner of menne lyve and for him if hit were mede to deie. The Gentyll knyght to John of Comen th answered and saide certis never for me ne for to have of me as moche help as the valu of o botonne fa that oth thet y have made to Kyng Edward of Engelond I schal holde hit whilis my lif last and with that word he wente fro that companye and wolde have went up on his palfray. And Robert the Brus purseuede him with a drawn sworde and bare him thorough the body. And Se John Comyn fil doune to the erth. But whenne Roger that was Se John Comynes brothir saugh this fallenesse he sterte to Se Robert the Brus and smott him with a knyfe but thee fals trettour was armed undir so that the strok myght dou him non harme. And so moche help come aboute Se Robert the Brus so that Roger Comyn was there quelled and al to hewe in small piccis and Robert the Brus tournede ageien there that Se John Comyn that noble Baronn lay wounded and pynned to ward his dethe be sides the heige auter in the chirche of the gray freres and saide un to Se John Comyn O traitour thou schalt be ded and nevere after lette myn avauncement and schok his swerde att the heigh auter and smot him on hed that the brayn fill down up on the ground and the blode stirte an heighe in to the wallis and yiet in to this day that blode es sene there that no water may wasch hit away and so deide that nobil knyght in holy chersch."

STORY OF A DOUGLAS CHARTER.

Once upon a time, a bookseller friend of mine told me in answer to my question that the only manuscript he had was an old charter, which he pressed me to take. A cursory glance was enough to make me decline, but, of course, he insisted, and with that fatal want of firmness which has been the bane of very many better men than myself, I yielded. For the modest sum of 7s 6d that bookseller had inflicted upon me this alluring and worshipful document (tattered parchment produced), so eminently

fitted to excite a sense of the fascination of manuscript. Outwardly considered, indeed, it is not of much account: damp has been at it, perhaps the mice have sampled the vellum, and it is ragged and frayed about its inwards although constitutionally intact. Such as it is, it will serve to illustrate the constant possibilities of surprise, the revelation of unsuspected elements of early record—in a word, those chances of discovery, sometimes even romantic chances of historical discovery, which lurk in the faded lettering of long ago. For my charter was a document of State, a voucher from an obscure and troubled period of Scotland, a witness called thus late into the witness-box to testify concerning the days when James II. held ineffectual sway, when Crichton and Livingstone rivalled each other in their effort to hold the reins of government, while the powerful Earl of Douglas, sullen, contemptuous, and nursing his own ambitions regardless alike of King and minister, stood proudly aloof. It was a charter of James II. in January, 1448-9, containing a transumpt or official copy certified under the Great Seal of no fewer than eight earlier charters. Some of these were previously known, though not in their completeness, some were now for the first time added to the existing store of national record. What were the grants contained in these deeds? There was an earldom in one of them; there was in another a lordship over what is now a great westland shire; there was a Border barony with almost Palatine jurisdiction; there was the moiety of a holding in Ayrshire which had formed a seat of the Stewart line. Here was a confirmation and re-grant by David II. in 1368 to Thomas Fleming of the Earldom of Wigton as his grandfather had held it except that for certain reasons the right of regality was reserved. There was a charter by this Earl, Thomas Fleming, in 1372 indicating that on account of the great and severe discords between him and the native chiefs of the Earldom of Wigton he had sold to Sir Archibald, Lord of Galloway, all his Earldom for a certain notable money-price—the Earldom with all its marches, pastures, moors, ways, paths, waters, bondsmen and bond-service, with the rights of hawking, hunting, fishing, fees, forfeitures, and estates, liberties, conveniences, easements, appurtenances, and free customs. It is the full authentic story of the acquirement of the Earldom by Archibald the Grim. Here, too, is the charter, a few months earlier, of September, 1367, granting

and confirming to Archibald the Grim for his diligent and acceptable service, efficiently and effectively rendered to David II., all the royal lands of Galloway between the water of Cree and the water of Nith, "for the pacification and justification" of which the said Archibald made no small expenditure and labour in his own person, and which lands are granted with all the feudal pertinents and lordship "cum burgis"—with the burghs and liberties of burghs therein as freely as Edward Bruce, our dearest uncle of good memory, held the same, rendering in name of *blanche farme* a white rose annually at our castle at Dumfries at the feast of St. Peter, "ad vincula." Here, too, is the grant on 5th June, 1358, to Thomas Murray, of the Barony of Hawick and Spruceton, on the Tweed. Here also is a strange document—the verdict of a Roxburgh jury in 1320 in answer to a question as to the tenure by which the Lord De Vescy had held Spruceton, a verdict declaring that he had held Spruceton *regaliter*, that he held it regally by the same liberties as King Alexander held his lands when he reigned, and that he had the right to have his own justiciary, his own chamberlain, his chancellor, his crowner, his sergeants, and also his standard measures, in the manner of the said King Alexander. Here, further, is a charter of 1322 by King Robert the Bruce in favour of his natural son, Robert, of the lordship of Spruceton, among the witnesses to which are the Abbot of Arbroath, the Chancellor, and Randolph, Earl of Murray—that Randolph who redeemed so gallantly at Bannockburn the rose that fell from his chaplet early in the fight—the Abbot of Arbroath, the patriotic prelate, who, in the intervals of his vocation as statesman and chancellor, found leisure to indite that Latin song of Bannockburn on which so few students of Scottish history have ever deigned to bestow their attention. Here, lastly, is another charter of uncertain date by Robert the Bruce in favour of his kinsman, William Murray, of half the tenement of Stewarton, in Cunningham—a deed to which the witnesses, besides the Abbot of Arbroath, are Sir James of Douglas and Sir Robert of Keith—the one, famous as the daring soldier of infinite resource, "the good Lord James," right-hand man of Robert the Bruce in the War of Independence; while the other was Keith, the marshal, who led the charge of horse against the English Archers at Bannockburn. It is a procession of noble names we meet in these charters and the con-

firmations of them—some by David II., others by Robert II., and all of them by James II. The spirit of feudalism stirs anew as we salute Robert the Bruce; his gallant, if headstrong brother; “the good Lord James,” shrewdest and most daring of lieutenants; Archibald the Grim, half-soldier, half-judge, “pacifying and justifying” Galloway; Sir Hugh of Eglinton, poet and singer; and in company with him Sir Robert of Erskine, the chief man of affairs in the Scotland of his time. These make a gallery of Scottish notables, a list of names which, in the annals of an age of chivalry and rising national spirit, can stand comparison with the proudest Europe has on the honoured roll of the 14th century.

In its variety of contents, too, this is not merely a charter. As regards feudalism it might serve as a manual, and the terms and usages it illustrates might keep a local antiquary going for a month to explain. One may, in passing, notice only one or two things—the sale of an earldom as a recognised and approved transaction; the old disused castle of Dumfries treated as a “caput baroniae” as the head place of the disjoined lordship of Galloway west of the Nith and east of the Cree; the conveyance of the burghs of Galloway by the King to Archibald the Grim with the lordship; the feuds of Galloway as the last signs of Celtic protest against Norman feudalism. Nor is the light confined to the 14th century, for the final confirmation, the charter itself proper, is by James II., and the problem confronts us—What brings these incongruous deeds together? What is the bond of union between these charters of Thomas Fleming and Archibald the Grim, Thomas Murray of Hawick, Robert Bruce of Spruceton, and William Murray of Stewarton? In whose favour is this deed conceived? What is its object? Happily, the answer, though not expressed on the face of the deed, is obvious from what it contains. In 1449, one man was lord of all the possessions in all those charters; one man held the Earldom of Wigtown, was Lord of Galloway, owned the lordship of Stewarton and the baronies of Hawick and Spruceton. That man was William, Earl of Douglas, who alone had any interest to serve from such a document as this. To this Earl William in January, 1449, this charter was certainly granted. When we look at the witnesses we shall find the list significant. One of them is Alexander, Earl of Crawford; another was Sir Alexander Livingstone of

Callander; a third was Robert Livingstone, comptroller. The first of these was that Earl of Crawford whose "band" or alliance with Douglas was to cost Douglas his life. In September, 1449, Sir Alexander of Livingstone, Lord of Callander, was arrested for treason, tried, convicted, disgraced, forfeited, and imprisoned. Robert Livingstone, the comptroller, was tried too, was convicted and was executed. The Livingstone faction was overthrown in blood, and "all put down," says the chronicler of the town, "all put down that thair put up." It was a beginning of troubles which were hasting to become history and to overwhelm more than the Livingstones. This document marks in a unique manner the summit of the Douglas power just as that family was visibly and perilously near to that pitch of insolent ambition which provoked the catastrophe of the assassination of 1452.

A DUMFRIES SASINE.

The final subject of brief comment was found in a notarial document concerning Crukitakyr on the road from the Chapel of St. Mary the Virgin at Castledikis, dated 26 March, 1332. The deed was expedite by Thomas Connelsonne, a name met with elsewhere, as that of a practising notary of the period, and its interest lay in the mention of the castle chapel of St. Mary in Castledykes. My excuse for introducing it is that I might make a suggestion to this society. The amount of historical information that is contained in the instruments of sasine is, of course, prodigious, and there are in Dumfriesshire several very valuable protocol books which are the places where they are contained. There are one or two in Mr Grierson's hands as town clerk, and one or two in the possession of the Buccleuch family, and I would ask this society to consider whether it could not do the country a great service by organising means whereby these protocol books might be, if not edited in full—which would involve a considerable amount of labour—at least calendared. There can be no doubt that the body of territorial, genealogical, topographical, political, and, indeed, national records embodied in these documents would be a great god-send to Scottish history, and it would reflect the utmost credit on the society that carried through the work.

II.—POPULAR PLANT NAMES. By Mr SAMUEL ARNOTT.

We may begin by taking the common burdock, whose sticky burs have given so much amusement to many youthful generations in past and present times. It is best known in the south of Scotland simply as the bur, but elsewhere it has other names. Thus it is the cockle or cuckle buttons of Devon; while elsewhere the burs are called variously bachelor's buttons, sticky buttons, and billy-buttons, said to be so-called because boys stick them down their coats to personate waiters. Thistle is also a name in some parts, not of Scotland, as we may suppose, but of England.

Another wild plant, *plantago lanceolata*, the ribwort plantain, often called "fighters," or "fechters," from the flower heads being used in mock fights, by striking them against each other, secures for itself the names of "hardhead" and "soldier." Another name applied to it is said to be lamb's tongue, a term also applied to a garden stachys.

The wild iris (*iris pseudacorus*) is frequently known in our district as segg, an evident corruption of sedge, and the same plant is said to bear the name of levers, also applied to a grass which is found on some marshy grounds. Other names for this yellow iris are flag-flower, corn-flag (properly belonging to the *gladiolous*), water lily, dragon flower, and dagger flower. The names of gladdon, gladder, and gladwyn have also been given to one of the irises, correctly to *I. foetidissima*, which does not, so far as I remember, occur in our counties.

When we come to the name of bachelor's buttons, familiar to many, we are upon very uncertain ground. As already mentioned, this name has been applied to the burs of the burdock, but quite a discussion has been raised as to what is the true bachelor's button. In my early days I have heard it applied to the flowers of the double form of *ranunculus aconitifolius*, known best, perhaps, throughout the kingdom as "Fair Maids of France," from the fact of the plant having been introduced from that country. The true bachelor's button is, however, I believe, the double form of *ranunculus acris*, the common buttercup or crowfoot, but it has been rather indiscriminately applied to the flowers of other double-flowered *ranunculuses*. The single *ranunculus acris*, which is generally called

simply the buttercup with us, and not the crowfoot by the people at large, has elsewhere the names of King's cup, gold cup, gold knobs, leopard's foot, and cuckoo bud. With us yellow flowers of similar character, such even as the lesser celandine, immortalised by Wordsworth's well known lines, generally bear the name of buttercup, and I have even heard it applied to the marsh marigold, *caltha palustris*. We have thus nothing so poetical as the Italian "Spouse of the Sun," applied to our marsh marigold, which, however, is said to have been the flower alluded to by Shakespeare in the words, "And winking Mary-buds begin to ope their golden eyes." We all know the daisy as the gowan, but I have also heard it called the curly doddie, but this was given by a man who had spent some years in Cornwall, where, I believe, from a curious poem in the vernacular of that county which once came under my observation, it is used for another flower, apparently of the buttercup or crowfoot family. The dog-daisy is *chrysanthemum leucanthemum*, while, as we all know, another of the same genus is not, as we might expect, the corn-daisy, but the corn marigold. Then the lucken gowan is a member of still another natural order, as it is the *trollius*, also called the globe flower, and said to bear in some parts of Scotland the name of witches' gowan. It was also known as the troll flower, a term probably, like the preceding one, derived from its acrid juices being used by the malignant beings, the Trolls and witches. Globe crowfoot and globe *ranunculus* are also names of this pretty native plant.

We are all familiar with *crawtae* as our Scottish appellation of the wild scilla or wood hyacinth, which is also the blue-bell of England, although it has been called there by the old herbalists the hare bell or hare's bell, and some think that it was the "azure harebell" of Shakespeare. It is the culver keys of Izaak Watson.

Few of our wild plants have had so many popular names as *verbascum thapsus*, our wild mullein, and a conspicuous object near Arbigland on the beach of the Solway. I have never heard it called locally anything but "a mullin," but with some other plants I believe it is also called Aaron's rod. Shepherd's gourd is another name I have heard given to it, but that was used by a person of more northern origin. Torches, hedge taper, high taper, and hig taper are all names it has borne, originating from

the resemblance of the plant to candles used in churches, at least so say some authorities, while others say that it was because the stalks were used as torches at funerals after being dipped in suet. The name of hig taper became corrupted into hag taper, because of a belief that it was used by witches when working their spells. Another name for the mullein was flannel flower, because of the woolliness of its leaves and stems, this tomentum being dried and used as tinder. Bullock's lungwort was another of its cognomens, while the modern Romans are said to speak of it by a name which signifies "Light of the Lord."

The common mugwort, which some say was itself originally a corruption of motherwort, of our fields is simply corrupted into muggart, but I am told that a popular name in Wigtownshire was bowlocks—for what reason I cannot form any idea. The plant has many virtues attributed to it, and an old Scottish legend, which tells how a mermaid of the Clyde exclaimed, on seeing the funeral of a young girl who had died of consumption, may be quoted. It runs thus:—

If they wad drink nettles in March
 An' eat muzzart in May,
 Sae miny braw maidens
 Wad not go to clay.

In one part of Russia it is said to be called by a name signifying the herb of forgetfulness, while in another it is called simply bech, from the belief, derived from an old legend, that when a horse steps on the mugwort the plant moans "Bech, bech."

Briza media, that pretty little grass, is called with us simply shakin' grass, but elsewhere it bears such titles as cow quakes, dotherin' or dodderin' dicks, tremlin' grass, quakin' grass or ladies' hair, the last being also one of the names of *stipa pennata*, the feather grass, and more appropriate as applied to it than to the *briza*.

Achillea ptarmica is well known here as the wild yarrow or sneezeurt, but it has also borne such names as goose tongue and wild pellitory; while *achillea millefolium*, the common yarrow, has had several designations besides that of milfoild. From being used as a cure for bleeding at the nose it was called nose-bleed, and it was also old man's pepper, and the soldier's woundwort.

We are familiar with southernwood, or old man, as popular

names for *artemisia abrotanum*, and the former has been corrupted into sutherwood or sidderwud. Other names are boy's love, lad's love, and, one I have not heard used, but which I saw in a newspaper, from the pen of an Exeter writer, is maiden's ruin. Wormwood is familiar enough, but the French "garde robe" is interesting as derived from the uses of the plant to protect clothes from moths.

The goat's beard, or *tragopogon*, is not familiar to the people as a whole by name, but I have no recollection of hearing anyone call it what some do, either noon-day flower, star of Jerusalem, Joseph's flower, or that appropriate, if somewhat imperatively stated one, go-to-bed-at-noon, which it has received because it closes at noon. Noon flower is elsewhere applied to the *mesembryanthemum*.

The cow has supplied a portion of the names of a good number of plants. Among these we have, of course, the cowslip, the exact origin of which is open to discussion, but a good authority considers it is derived from an old Saxon term. A north of England name for the cowslip is *coostropple*, "that is the cow's throat or thropple, deeper than the cow's lip." I give this for what it is worth. It has also been called *paigle* and *petty mullein*, while a Kentish name was *fairy cups*. The cowslip of Jerusalem was the common lungwort, *pulmonaria officinalis*, which has also had such names as *sage of Jerusalem*, *sage of Bethlehem*, and *wild comfrey*. Our common name of lungwort was derived from its spotted leaves being understood to denote that it was a cure for diseased lungs, according to the doctrine of signatures. We all know *cow parsnip* as the common name of the *heracleum*, but *hogweed* is a less familiar one, and *cow keeks*, and *kelks* or *keeks*, although said to be current in the north of England, has never been used in my presence anywhere. The purple clover is called by some *cow grass*, and it is also called *wild sookies* and *zizzag*, but none of these are current with us, I believe. The *cowberry* is *vaccinium vitis idæa*, the red whortle berry.

The *cowberry*, *empetrum nigrum*, has a few other names, such as *craa crook*, and *crakeberry*, but I have not heard of these in our own locality, and in some parts the *lady's fingers*, the *anthyllis*, has the name of *crawnebs*.

The violet or *heart's-ease*, as represented by *wayside* and in

garden by the wild violets and pansies, is not known with us by the many titles it has elsewhere in Britain and on the continent, and, poetic as is our term of heart's-ease, it is not so quaint as some of the following:—Herb trinity, forget-me-not, three-faces-under-a-hood, love-and-idle, love-in-idleness, live-in-idleness, call-me-to-you, flamy, pink-o'-my-John, tittle-my-fancy, kiss-me-ere-I-rise, kiss-me-at-the-garden-gate, jump-up-and-kiss-me, or cuddle-me-to-you. The name of love-in-idleness has Shakespearean sanction, seeing that Oberon tells Puck to procure for him the little western flower, called by maidens love-in-idleness. A north-east of Scotland and Scandinavian word for it is step-mother; while the old Saxon names for the violet were simmering wort and banwort.

Most of us are familiar with the name lady's smock, for *cardamine pratensis*, but not many in our district know of it as the cuckoo flower, so given because, as Garard tells us, it flowers when "the cuckoo doth begin to sing her pleasant notes without stammering." A purely Kirkbean name, at least so far as I can learn, for this plant is carsons, but why applied I can never ascertain, except that it may be considered that it only grows on carse land.

Centaurea nigra is called the horse-knot, a name which seems with us to be applied to other members of the genus, as I have heard *centaurea montana* spoken of as the horse-knot, and also as the blue bonnet. Other names for *centaurea nigra* are hard-head and iron-head. Cornflower is, however, fast creeping in as the name for almost all the centaureas, but we have, of course, the blue-bottle, bluet, blue-blow, and hurt-sickle as applied to them.

Wandering sailor is rather vaguely used for at least three plants to my knowledge. These are *lysimachia nummularia*, the moneywort; *saxifraga sarmentosa*, the mother-of-thousands; and *sedum reflexum*, one of the stonecrops. I have also heard *sedum oppositifolium* called deil's barley and daun'rin' Kate; while, as you all know, *saxifraga umbrosa* is the London pride or none-so-pretty, corrupted into Nancy Pretty. It is also Prattling Parnell, St. Patrick's cabbage, and Queen Anne's lacework. According to a Devonshire writer, the local name of this plant about Exeter is the lengthy one of "Meet me, love, behind the garden door." I may observe that the name of London Pride has nothing to do

with its former or present popularity in London gardens, but was given because the plant was introduced by London, a partner of a celebrated firm of London florists called London & Wise, who were royal gardeners, and who published several gardening works about the beginning of the eighteenth century. Here are several other names for this old-fashioned flower:—Bird's-eye, garden gate, an abbreviation of kiss-me-love-at-the-garden-gate—a pansy name, if you remember; kiss-me-quick, look-up-and-kiss-me, chickens, pink, Prince's feather. With us I only know of Nancy Pretty, None-so-pretty, and London Pride being used.

I have referred to *linaria cymbalaria* being among the plants called Wandering Sailor. It has several other appellations, such as Kenilworth Ivy, because said to grow on the ruins of Kenilworth; butter and eggs, properly applied to *linaria vulgaris*, however; rambling sailor, pedlar's basket, and mother of millions. *Saxifraga sarmentosa*, formerly mentioned as the mother-of-thousands, is also the spider plant and the poor man's geranium. In Somerset I am told that *corydalis lutea* is also the mother-of-thousands; while *tradescantia virginica* is the spider wort, and also, in some parts of the south of Scotland, the life o' man.

I have heard the charming *lotus corniculatus*, the bird's foot trefoil named lady's fingers, which belongs to the *anthyllis* before referred to, but it is also said to be eggs and bacon, from the colour of its flowers. An authority on the subject calls it butter-jags, which he thinks may be a corruption of buttered eggs, but it is difficult to distinguish anything which would account for such a gross corruption. Of course, most of us know the double narcissi—which are butter and eggs and eggs and bacon—as well as their sister flower, which is the codlings and cream.

When we come into what may be called the names derived from comestibles, we enter a wide field; and a few references to these must conclude this instalment of my subject. I do not suppose any of us here have ever heard the primrose called the butter rose, doubtless caused by its colour, nor the ox-eye or dog daisy the butter daisy, but, of course, many of us will know the flower or leaf-buds of the hawthorn as bread-and-cheese. The common wood sorrel, with us cuckoo's meat, is in some places cuckoo's bread-and-cheese.

Most young children know well the sourock or sourick, which

has a considerable number of other names, such as soursauce, greensauce, soursuds, sourgrabs, sourdock, and soursabs.

Others must be left for another time, if you should care to have them, and, if so, I would bespeak your assistance and that of others in endeavouring to compile a complete list of local plant names.

24th March, 1905.

Chairman—Mr JAMES BARBOUR, Vice-President.

NEW MEMBERS.—Mrs Wilson, Castledykes Cottage, Dumfries, and Mr Robert Service, jun., Janefield, Maxwelltown.

EXHIBITS.—From Mr Beattie, of Davington, Eskdalemuir, a finely-designed flint arrow-head and a bead, found when digging foundations of new Magnetic Observatory at Eskdalemuir. Mr Service explained that the bead was apparently of the kind found in the grave mounds of the Saxon period. From Mr Thomson, Hole-i'-the-wa' Inn, silver chain worn by Deacon of Weavers; from Mr George Irving, Corbridge-on-Tyne, parchment, dated 1794, being a declaration of loyalty signed by inhabitants of the parish of Closeburn, and a document from Francis Carlyle, grand-uncle of Thomas Carlyle, to the trustees of Mr Sharpe of Hoddum. The following are copies of Mr Irving's exhibits:—

(a) Declaration of Loyalty by the Inhabitants of Closeburn Parish.

“We whose names are hereunto subscribed do solemnly declare that we are firmly attached to our present happy constitution as established in King, Lords, and Commons; that we detest all those principles which of late have been attempted to be disseminated in this kingdom by wicked and designing men tending to subvert all regular government and to introduce anarchy, and that we will assist the Government in repelling all foreign enemies and assisting the civil magistrates whenever called upon for suppressing of riots and tumults within the county of Dumfries.” Endorsed on the Declaration there was the following note by Thomas Kirkpatrick, D.L.:—“None of the

signatories shall be bound or desired to go out of the county, but in case of actual invasion."

(b) To George Muir, Esq., Writer to the Signet, Edinburgh.

"Sir,—Francis Carlyle, late commander of the King's Excise Yacht at Portpatrick, presently possesses a house and cow's grass at Yetts, a farm belonging to Mr Sharp of Hoddom. The tack of this farm expires at Candlemas next, and as the said Francis Carlyle is desirous of taking a lease of this farm to commence at the said term from you and the Gentlemen Trustees appointed for Charles Sharp, Esq., I hereby offer you nine shillings pr. acre for a lease of nineteen years of rent for said farm (a small piece of moss ground being about $1\frac{1}{2}$ acre to pay no rent but to be given in the bargain). And as the house he presently possesses is in a ruinous condition and stands in great need of immediate repair, He is willing to repair the same at his own expense providing you and the other Trustees will reimburse him of the expense thereof which will be about five or six pounds. In case you do not accept of the above offer for the Farm and grant him a lease thereof in the above terms your communicating this to the other Gentlemen and letting me know if you and them agree to this proposal will oblige,

Sir,

Your most obedt. humble Servt.,
FRAS. CARLYLE."

"Edinbr., 19th Febry., 1773."

This Fras. Carlyle was grand-uncle to Thomas Carlyle, and is referred to in his *Reminiscences*, Vol. I., page 33, as "the Captain of Middlebie."

I.—INCORPORATED TRADES OF DUMFRIES. WITH SPECIAL REFERENCE TO THE WEAVERS. By Mr W. DICKIE.

I have elsewhere* presented some gleanings from the general records of the Seven Incorporated Trades of Dumfries. Recently I have had the opportunity of perusing the earliest extant minutes of the Weavers. The books in which they are recorded were in the possession of the late Mr James Muir, the last surviving member of the incorporation, and it is to the courtesy of his son-

* In "Auld Lang Syne" column of "Dumfries Standard."

in-law, Mr Samuel Young, clothier, that I am indebted for access to them. I have also in my possession an eighteenth century volume of minutes of the Wrights or Squaremen, and to it incidental references will be made. The oldest of the Weavers' books is a substantial volume bound in rough calf-skin. If we could accept all the entries in it as literally accurate, it would be much the earliest record of any Incorporated Trade, not only in Dumfries, but in the kingdom; for four times in succession minutes are headed with the date 1074. It is, however, apparent on the most cursory glance that the scribe has misplaced the numerals, and that what he intended to write was 1704. The date of the actually earliest entry is 1654, and it is in the following quaint and rather confusing terms:—

“At Drumfreis the year off God 1654.—The quhilk day James Fergusone, Deacon, Thomas Pattersone, Trasirer, Robert Gibsonne, Nicoll Heslop, Johne Tomson, Richart Dun, Johnne Kennen, William Greir, masters, Thomas Willstone, officer, upon the twallt day of Agust the weivers' loft was fulie complit and was sat upon it. 1653 years.”

The record refers to the erection of a gallery for the use of members of the trade in the old church of St. Michael, which was taken down some ninety years later, but it is not quite clear whether it was on the 12th of August, 1654, that the gallery was first occupied, or whether this was done on 12th August, 1653, and an omission repaired by inserting a minute on the subject in the following year.

The general records of the Dumfries Incorporations extend back to 1612. This minute book of the Weavers is the earliest known to be extant of any of the particular trades. Before proceeding to examine its contents we may recall several of the more salient facts connected with the origin and functions of incorporations of crafts or trades as they existed in Scotland. These obtained their first statutory sanction in 1424, when an Act was passed by the Parliament sitting at Perth requiring that in every town of the realm the members of each craft should, with consent of the officer of the town, choose a wise man of their own number, “whilk shall be holden deacon or master over the rest for the time, to govern and assaye all works that bes made by the craftsmen of that craft, so that the King's lieges be not defrauded and skaithed in time to come as they have been

in times bygone through untrue men of the crafts." This, it is believed, was only legalising a practice which had already been adopted more or less generally by various crafts. The Act recites one of the objects which such federation has in view, and the one which more directly concerns the common weal; to secure, namely, that the various tradesmen shall turn out good and honest work. But they served another purpose, and one which appealed to the stronger instinct of self-interest, by conserving and extending the privileges of the crafts, confirming their monopoly, and enabling the members to procure higher prices for their work. This motive seems at an early stage to have predominated to such an extent as to excite the alarm of the legislators, and three years afterwards the Act of 1424 was repealed, and craftsmen were forbidden "to summon their customary assemblies, which are believed to resemble meetings of conspirators." Instead of popular election, the Town Councils were to choose a Warden for every craft and "other discreet men unsuspect," who were to "examine and apprise the matter and the workmanship of ilk craft and set it to a certain price;" and if any man broke the price he was to be subject to a penalty. The Frankenstein of the crafts, however, was not so easily dealt with, and in 1491 it was found necessary to pass another statute against the election of deacons. The reason assigned was that it was "understood by the King and the Three Estates that the using of deacons of crafts in burghs is right dangerous, and as they use the same may cause trouble to the lieges by convening together and making laws of their craft contrary to the common profit, whereby when one leaves work another dare not finish it." The functions of deacons were to be strictly limited to the examining of "stuff and work wrought by the craft." And "masons, and wrights, and other men of craft who statutes that they shall have fee as well for the halie day as for the work day shall be indited as common oppressors and punished accordingly." Notwithstanding these fulminations the organisation of the trades became extended and consolidated. A common practice was for the Town Council to grant to a particular trade a charter of incorporation under the name of a Seal of Cause, sometimes also called a Letter of Deaconry. The records of the city of Glasgow show that such Seals of Cause were issued in the sixteenth century by the Town Council, with the concur-

rence of the Archbishop of Glasgow; and that the Cordiners (or shoemakers) and Barkers (or tanners) had been incorporated prior to 1460, in which year their regulations were confirmed by the Council. These Seals of Cause provided that no person should "set up booth to work within this city until he be first made a burgess and freeman of the same, and be examined by three or four masters of the said craft if he be a sufficient workman and able to work good and sufficient work to serve our Sovereign Lord's lieges." The Shoemakers of Dumfries received a Seal of Cause from the Town Council of date 1st December, 1513, and no doubt others would be issued here, as in Glasgow and other towns, during that century. In many cases, where no formal charter was issued, trades enjoyed by prescription the same rights of incorporation. That was pleaded in the case of the Hammermen before the Town Council of Dumfries in connection with a memorable civic dispute in 1759. A saddler had in that year been chosen Deacon of the Hammermen. The deacons had seats in the Town Council, and objection was taken to his admission on the ground that the saddlers were only a pendicle of the Hammermen incorporation, not being named in the Seal of Cause constituting it, and were not eligible for election to office. The reply, which prevailed, was that there was no Seal of Cause, but that the incorporation rested upon prescription, and the saddlers had all along been recognised as constituent members entitled to the full privileges of the craft.

The numbers of the trades varied in different towns, and also the method in which they were grouped. In connection with Dumfries we are accustomed to the mystic number seven, but it had no special or universal significance. When the system was at its height there were in Glasgow fourteen incorporated trades; in Edinburgh, twelve; in Dundee, nine; in Perth, eight; in Aberdeen, seven; and in addition three separate societies—the Litsters or Dyers, the Masons, the Leechers (or barber-surgeons), each of which elected its deacon; and in Perth there were, in like manner, seven incorporated crafts and three "tolerated communities." In Dumfries the Wrights or Joiners Incorporation, which came to adopt the more collective name of the Squaremen, embraced all the building trades. We find, for example, mention of "sclaiters," "glasenwrights" or painters, and "coupers," as well as masons and joiners. The Weaver Trade compre-

hended workers in cotton and woollen, dyers, or in the phraseology of the time "litsters;" and there is, of date 19th September, 1723, an entry of a peruke-maker, John Newal, being booked a freeman of the craft. The Hammermen included not only smiths and all workers in metal, but, as we have seen, such craftsmen as saddlers.

This method of organisation among craftsmen has passed away with the monopolist system which gave it birth; but in some places the semblance of it remains as a more or less picturesque survival. Of this we have an example in Kirkcudbright, where an annual election of Convener and Deacons is made. In others its forms are preserved for the administration of funds accumulated in the palmy days of the trades, and dedicated to benevolent or educational purposes. The most noted example of this occurs in the city of Glasgow, where the Trades House administers a property of close on half a million sterling, and the Deacon-Convener occupies ex officio a seat in the Town Council, in which all the trades were formerly represented.

Addressing ourselves now more particularly to the consideration of the records of "the Weaver Traid," as its title is therein written, it will be proper first to inquire what were the terms of admission. It was a pretty onerous probation which had to be passed before the position of Freeman was attained. The minutes are chiefly occupied with entries of the "booking" or admission of apprentices, journeyman, and freeman. By the terms of his indenture, as abbreviated in the minutes, the apprentice is taken bound to serve his master "honestly and dewtyfully," or "truly and honestly," for the space of five years. In some instances it is stipulated that he shall so serve "night and day" and both on "work day and holy days," or again "week day and Sabbath day;" and further that he shall not hear of his master's "skaith, but shall prevent the same to the utmost of his power." On the other hand, the master (who is in many instances the father of the apprentice) is taken bound to learn and instruct him "in all the points of the weaver trade known to himself," and which the apprentice "is capable to take up," and to maintain him in bed and board; sometimes it is added also in "habiliments." Cautioners are required on both sides for fulfilment of the contract. A fee was required at the booking of an apprentice, and in 1672 the amount of it was fixed

at two merks Scots. The term of apprenticeship varied. Sometimes it is expressed as simply for five years; in other cases, for four years and "one year for meit and fee;" in others, as for "five years and the last year for meit and fee;" and yet again "for five years time and a year thereafter for meit and fee." In the case of the Wrights the term of apprenticeship was six years. It is in some cases entered as five years and a year thereafter for meat and fee; in others, simply as six years.

Having completed his indenture, the apprentice was next entered or booked as a journeyman to some freeman of the incorporation; and it was enacted, by minute of 20th December, 1705, that he should not be eligible for admission as a freeman until he had served three full years as journeyman, and given evidence thereof to the trade. That minute also created what may be called a grade of junior freemen, by forbidding any of that rank from taking an apprentice "till first he be four full years a freeman using his own employ." He might then hire one apprentice, but one only; for it is ordained—"further, it shall not be leisom to the said freeman so receiving the said first apprentice to take another apprentice till four years expire after the entry of the said first one," unless the first apprentice shall die or become incapable of working. Only in 1752 do I find mention of the fee charged to a journeyman on enrolment. It was in that year reduced to two shillings sterling.

The amount of the fees to be exacted at the admission of freemen was a subject of frequent regulation, and they were framed on a differential scale. Applicants were divided into three classes. There was first the son or son-in-law of a freeman. Secondly, there was the "town apprentice," that is, one who had served his indenture with a member of the incorporation. These were privileged classes. The third class, styled Neutrals, and corresponding to the "Extraneans" of some northern towns, consisted of those who had served their apprenticeship in some other place and did not stand within the privileged degree of relationship to any native freeman. A resolution of the craft of 22nd March, 1705, fixes the fee for admission of a Neutral at 100 merks Scots, being equivalent to £5 10s sterling, "by and attour the trade dues use and wont;" but if he should marry a freeman's daughter he "shall be admitted freeman by his said marriage for the price of £20 Scots," or £1 13s 4d sterling; and a freeman's

son was to be admitted at the same lower rate. We learn, however, from an entry, in 1732, that £20 Scots was never exacted from the sons or sons-in-law, but only 20 merks. In August, 1715, the trade, lamenting the decrease in prices for their work, attributed this to competition arising from undue multiplication of masters, and in the hope of restricting the number they advanced the fee or "composition" charged to a town apprentice on enrolment as a freeman to £48 Scots, or £4 sterling in money, "by and attour drinking, dyner, head-washing, and other dues at such solemnitie of admission." Then in November, 1730, presumably with the same purpose, the fee for a Neutral was increased from 100 merks to £100 Scots. Again in 1736 the fees for admission in the case of a freeman's son are fixed as follows:—20 merks for his freedom; 5s sterling for his speaking pint; two shillings for his "asy giveing," and two shillings for his head-washing; "with a drink to the whole corporation after their admission, according as the Deacon shall please."

The term "speaking pint" has its equivalent in the phrase "standing his footing" applied to the entertainment expected of a new-comer in some trades. "Head-washing" had nothing of the sanitary process about it, but was very much of the same nature as the other, being defined in Jamieson's "Scottish Dictionary" as "an entertainment given as a fine by those who newly enter on any profession, or are advanced to any situation of trust or dignity; or who, like those who for the first time cross the line, have made an expedition they never made before." It was a penalty exacted on advancement to the office of Deacon, Boxmaster, or Master, as well as on enrolment as freeman; and in 1768 the General Committee of the Dumfries Incorporated Trades adopted a scale of commutation charges, directing that the money should be applied to the public funds of the trade and that the accustomed entertainments should no longer be given, as they were "a cause of great avoiation from business and loss of time, and have been attended with expense out of every individual's pocket present." This Act of the General Committee was recorded also in the minutes of the Weavers and of other individual trades. For a similar reason the Weavers at an earlier date (in 1742) had enacted that at the booking and receiving of apprentices or journeymen there should only be present the Deacon and Boxmaster and one or two of the Masters whom they

shall call; and no money was to be spent on such occasions from the incorporation funds. This Act does not seem, however, to have been generally observed; for in 1753 we have record of a complaint made to the Seven Incorporations by a part of the trade that the funds were misapplied by unnecessary drinking and in other ways. They were prohibited from spending any money belonging to the incorporation "upon any account whatever, except upon the necessary affairs thereof," and the General Committee reserved to itself a power of audit of the accounts. They are also prohibited from paying out of the trade funds any expenses of law suits between individual members. Other trades were exercised by similar excesses. The Wrights, for example, found it necessary to restrict the spending at their Deacon's election to twenty shillings of the corporation's funds.

In the quotation which I made from a Glasgow Seal of Cause it was stipulated that a freeman of the craft must first be a burges of the town. I do not find in the Dumfries trades records that such a condition was enforced. The general form of record is simply that the applicant presented a petition to be booked freeman, which was found reasonable, and he paid the composition and gave his oath of fidelity. In some cases it is further recorded that he "made his essay of work assigned to him to the satisfaction of all the members." One entry in the Wrights' records, of date January, 1774, does set forth regarding two masons that they "underwent their essay and produced their Act of Freedom as burgesses of the burgh, and were admitted and received freemen of the incorporation as masons on payment of the composition as Neutrals of £10 sterling each." But it is a solitary record of the kind.

A very interesting aspect of the Weavers' records is that which concerns the "Landward Freemen." The privileges of the incorporations had reference primarily, of course, to the area of the burgh. But Acts of the Convention of Burghs and of Town Councils, passed in the sixteenth century, sought to make their monopoly more effectual by extending their jurisdiction to the suburbs of towns and a radius of half-a-mile beyond the town walls; no craftsman being at liberty to follow his occupation within these limits without being enrolled as a freeman. The Brig-end of Dumfries, which we now know as the town of Maxwelltown, fell within this rule; and we have frequent mention in

the early records of freemen both of the weavers and wrights resident there. It is also specially recorded, on occasion of an important meeting of the Weavers on 14th December, 1754, that the officer "had warned the freemen both of the town and Brigend and Troqueer," the last named being presumably the old village on Troqueer road. These were freemen apparently in full enjoyment of trade privileges, albeit not residents in the burgh of Dumfries. There is, it is true, one entry (of date 1745) that "Wm. M'Clamruch, weaver in Bridgend, desired to be admitted liberty to take out and bring in work without molestation, he obliging himself to pay to the box for the trade's behoof 2s 6d yearly for each loom he employs." It might be thought that this argued a disability on Bridgend freedom, preventing them from bringing their goods into Dumfries for sale; but it will be observed that the applicant is not designated a freeman, and it is probable that this is an exceptional arrangement with one who did not possess the status of freeman. He would be of the class designated "Stallagers," with whom we meet in minutes of 1790 and 1791. These minutes refer to persons "within the territory of the burgh," namely, at Stoop, Wallacetown, Gateside of Lochar, and Whinnyhill, of whom it was complained that they had been working as weavers "without being admitted freemen or making acknowledgement [i.e., payment] for their infringing upon the laws of the incorporation." They each "came in the trade's will" for an annual payment of 6s 8d sterling as stallagers. This is defined by Jamieson (who spells it stallangers) as a Dumfriesshire term "denoting a person, not a freeman, who is allowed to carry on business for a small consideration to the corporation to which he belongs, for the term of a year, in the same manner as freemen do."

There was another and a large class resident in the villages and rural district around Dumfries, who were known as landward or country freemen, and on whom the usual levy made was 4s Scots or a groat yearly. Among the places mentioned in which these country members dwelt are Carruchan, Holme of Dalsckairth, Teraghtie, and Leanside, in the parish of Troqueer; Ackencreith, Trench, Taylorland, Kelton, in the parish of Dumfries; Colledge, I presume in Terregles; Braecroft and Oakabush, in Terregles; Conheath, Hiemaynes, Woodend, in Caerlaverock; Gateside, in Holywood; Holywood Kirk; Dalswinton,

Dincow, Kirkton, Carzield, in Kirkmahoe; Dalquharne, in Irongray; Lowghruton, Newabay; "Thorall," Dunscore, Glencairn, and Tynron parishes; Bruntshiells, in Tinwald; Brantinsylle, in the parish of Reveill; Nymbelly, which I take to be in Kirkbean. The terms of enrolment sometimes are that these men are to be "free of the said trade in the country only;" sometimes that they are to be free "to bring and take out work," to the town that is; but the variations in form do not seem to indicate any substantial distinction. In the case of John Aikine, one of the weavers resident at "Ackencreth," the permission to bring in and take out work is limited to four hours each market day; and it is expressly stipulated in this entry that he shall make the work "good and sufficient, at the ordinar and common prices, without less or more, and that he shall inform of all unfree traders." It is a pleasing picture which is brought before us of little industrial colonies dotted all over the district, and carrying on commerce with the town, albeit under restrictions which are not in consonance with modern ideas.

I will quote in extenso a minute of date 3d April, 1702, because it points to the establishment—or contemplated establishment—of some new departments of the weaver's trade in Dumfries, and also because it illustrates the detailed regulations and restrictive methods of the period, in limiting the number of persons employed and forbidding even freemen to practice any but their own particular branch of the craft.

"On the petition of Chas. Bowman, weaver in Air, to be freeman with the corporation of weavers in weaving of plush, damask, Dornick [that is linen cloth used in Scotland for the table], and flowr'd work, for which end he has resolved to come and make his residence within this burgh, and to submit to qt. composition [what payment] the Deacon and Masters shall exact of him. The Deacon and Masters after consideration thereof and for the petitioner's encouragement do unanimously admit and receive the said Charles to the freedom and privilege of their trade and incorporation for his working and weaving allenerly [only] of plush, demass, Dornick, and flowr'd work, with power to him to set up and use and practice his trade and vocation; declaring that after two years succeeding his settlement he may take prentice and journeymen according to the custom of trade. Yet that it shall be leisom to him immediately

after upsetting in the place to take to himself a man or boy for his service in the said four points of work. And for his further encouragement do modify the composition for the box to 20 shillings sterling, which the said Charles by his acceptance of his freedom by thir presents obliges him and his heirs and executors to pay to the use of boxmaster for the time in name of the trade at his convenience after his upsetting. The said Charles Bowman being present personally accepted the said freedom and gave his oath of fidelity and fraternity, to maintain, assist, and defend the incorporation and all its members in the whole immunities, and to obey the Deacon and Masters in all things reasonable and customary during the time of his enjoying the said freedom."

There is no record of this minute having been rescinded, as there is in the case of some others; but it has been scored out by drawing the pen through it. It may be that the trade repented of extending its privileges to a stranger; but more probably Mr Bowman had reconsidered his position, and resolved not to settle in Dumfries. It will be observed that his "composition" was not to be paid until "after his upsetting."

II.--KINNELHEAD TOWER. By Mr J. T. JOHNSTONE, Moffat.

The ruins of Kinnelhead Old Tower, which are in the immediate proximity of the farmhouse of Kinnelhead, show it to have been a large and important building in its day, but it has this strange peculiarity that nothing authentic seems to be known about its history. Its name does not appear in any list of the antiquities of the district, as the Statistical Account for 1792 and Dr Singer's "Survey of Dumfries," published in 1812. Neither does it appear in the Buccleuch and Annandale papers published by the Historical MSS. Commission. No reference is made to it as a tower or residence in the Annandale Family Book, and but two references are made to the lands of Kinnelhead in the index of places in the Family Book. The first reference is that in 1568 John Johnstone of Glenkill renounced in favour of Sir John Johnstone, Knight, the lands of Armynie, in the Stewartry of Kirkcudbright, with the lands of Kinnelhead and Holmschaw, in Annandale, to be occupied by him without condition. The other reference is in 1609, when

James Johnstone, first Earl of Hartfell, acquired from Robert Johnstone of Bearholm the lands of Easter Kinnelhead. In Grieve's Guide to Moffat there occurs:—"At one time Middlegill was the principal seat of David de Lindsay, Baron of Evandale, whose peel house stood at Kinnelhead." On communicating with the authoress of this guide, she could give me no definite information as to where she got the statement I have quoted. The Lindsays at one time owned land in this neighbourhood, but their principal seat was at Crawford, where the ruins of their castle are still to be seen; so that it seems very unlikely to have been built by any of that family. The site of the ruins is about two hundred yards or so west from Kinnel Water. It is surrounded by very rough and rocky ground, having generally a slope to the Kinnel. The north and south walls have been sandwiched in between two natural mounds or hillocks, which rise from ten to twenty feet above the general slope of the ground, the tailing of the mound slopes being cut away to allow the walls to be built. The space between the south wall and the first division wall has been excavated much deeper (probably to form a cellar or underground apartment of some kind) than any of the other divisions shown on the accompanying plan. This cellar has become filled up with stones which have fallen from the walls, and I am unable to state how deep it is to the original floor level. The first division wall (that is counting from the south) is founded on the top of the solid rock, and on the south face of this wall the rock is shown as a perpendicular cliff about 6 feet high before the stone wall begins. The building has been originally divided into three compartments, the centre one being nearly double the width of the other two. Outside of these places there appears to have been a walled-in outer court of considerable extent, and at the south-end of this court the foundations are seen of a small square off-shoot, the purpose of which seems to have been to cover the entrance to the court and buildings, as there are traces of a roadway leading to this part still visible. From the east wall of this off-shoot the foundations of a wall 4 feet 6 inches in width can be traced southwards for 238 feet. Small portions of the west and division walls are all the faced masonry that remains, although the sites of the others shown on the plan can still be clearly made out. A great number of the stones at present seen in the walls are of cyclopean

proportions; as, for instance, more than one stone can be measured as 6 ft. 6 in. by 2 ft. 6 in. by 1 foot 8 in., and a few at 3 ft. 6 in. by 3 ft. 6 in. by 1 foot 6 in. And there is one fallen from the walls and lying in the centre compartment which measures 6 ft. by 4 ft. 8 in. by 2 ft. The photograph shows a number of these large stones. There is a spring of water in the outer court. In conversation with a gentleman who was a farm servant at Kinnelhead over 60 years ago I gathered that the ruins then were just similar to what they are now. The Gallowhill, Moffat, and the Bleeze Hill, Wamphray, two of the Annandale beacon hills, are visible from the ruin, and it is surrounded by the ruins of four other towers at nearly equal distances. These are Lochwood and Auchencass, Kirkhope on Daer Water, and Locharben on the west side of Queensberry. (These two last towers were built by Sir James Douglas of Drumlanrig previous to 1578.) There can be no doubt that the ruins are the remains of a stronghold which must have been of some importance in its day, and it seems strange that it should have been passed by without some notice from the former antiquarians of this district, such as Dr Singer, etc.

(The plan and photograph are in the Society's collection.)

20th April, 1905.

Chairman—The PRESIDENT.

EXHIBITS.—From Mr Lockerbie, Chemist, a nestling pigeon with two heads; from Mr Lauder, gamekeeper, Barnbarroch, a very fine stone celt, found recently by Mr Lauder in a newly ploughed field at Barnbarroch; from Dr Martin, Holywood, a sixpenny piece of the reign of William III., dated 1696, found on the road at East Cluden; from Mr R. Service, a number of specimens illustrating the following paper.

THE RARER BIRDS OF THE SOLWAY AREA. By Mr ROBERT SERVICE.

I have found it just a little difficult to define a "Rarity," and to make up my mind on the question of inclusion or exclusion. The rarity of to-day may be the commonplace species of

a few years hence, or the ordinary every-day things of this year of grace may ere long be, alas! verging on extinction.

Thirty years ago the stock dove was a very great rarity—it passes us daily without notice now. Ten years earlier than the apparition of the stock dove, a starling's nest was the wonder and talk of a whole district—one wonders now where all their vast hordes find a living. When I was a boy the chough was to be seen fairly numerous all around our Galloway shores, now you may wander from the Heughs of Colvend to the precipices above Portpatrick, and it will be a note well worth booking if you see a single example, yea, even in many rambles. These are instances of the rise or fall of species from purely natural causes. The relative numbers of any species are always in a state of ebb or flow, but the process is in the great majority an exceedingly slow process, and is only seldom so marked as in the cases quoted. The occurrence of rarities points, like index fingers, to changes in prospect. These may be attributed to one or other of several things, that the particular species is (1) more or less voluntarily altering its direction of migration-flight, owing probably to some varying meteorological condition; (2) widening or lengthening the area of its seasonal occupation; (3) for some more or less inscrutable reason getting into questionable migration company, and being led astray into strange areas, not intended and unsuited for the species; and (4) in the case of the so-called gypsy migrants, they are the scouts and forerunners of species desirous of a temporary sojourn only. It is thus obvious that the occurrence of rarities opens up a most interesting field of study in many directions, and at the migration seasons more especially they point out to us the meaning of much that is going on which would be otherwise obscure.

Whether attributable to our geographical position or to the far more likely cause—scarcity of observers, the fact remains that Solway is, perhaps, the poorest area in Great Britain in its record of rarities. Comparing Solway with its two neighbour areas, Lakeland and Clyde, I find that in Lakeland they have 28 rarities that we have not got, while we have only seven that they have not recorded. In Clyde there are 13 more rarities than we have, and we have about nine that have not yet been recorded there.

I now proceed to give you my catalogue of Solway rarities,

and have to explain that the selection of species has been of a rather arbitrary character on my part. I divide them into the following classes so as to give the subject a rather clearer view:—

I.

SPRING OR SUMMER VISITANTS.

The Golden Oriole—a really brilliant bird of tropical appearance, closely allied to the thrushes. It comes to Great Britain with considerable frequency, and if left alone by the Kentish cherry farmers would certainly breed there, but so far north as this it is one of the greatest rarities we have. In fact there are only two occurrences—one near Sanquhar thirty or thirty-five years ago, and the other at Newton-Stewart within the last three years.

The White Wagtail—The continental form of the ordinary pied wagtail, but with a grey back, while ours has it black. Within recent years it has been found that a migration flight line of the white wagtail is along the west coast of England and Scotland, passing about the latter end of March, and proceeding by some convenient short cut up the west of our islands, so as perhaps to avoid the east wind, and on to the northern part of Scandinavia.

The Hawfinch was a rare bird about 30 years ago, but it has so rapidly increased that in many parts of England it is already a great pest on green peas. We have had three occurrences of the bird—one in 1869 at Newton-Stewart, another at Moffat three years ago, and only last season one was seen in Troqueer parish.

The Wryneck is one of the most interesting of our visitors, but its migration limits are strictly defined to a line which passes across the country somewhere in the latitude of York. There has been only two occurrences, both in Nithsdale, many years ago.

The Hoopoe comes to us very rarely now-a-days, and all the records we have are old ones.

Of the Lesser-spotted Woodpecker only one occurrence is known, namely, at Troqueer Holm, in 1860, and the specimen was in the possession of this Society till it became moth-eaten.

The specimen of the Roller shown is the ordinary south-

eastern European form. There have been two occurrences here, one made known by Sir William Jardine in October, 1864, when he found its feathers after the bird had been devoured by a cat, and another got at Mabie by a party out shooting.

The Bee-eater is another of those fine south-eastern birds which make long migration journeys. We have one record, so long ago as October, 1832, near Kirkmaiden.

Pallas's Sand Grouse—Instances in 1863 and in 1888. It is one of the most interesting birds known. In 1888 there were numerous paragraphs in the newspapers of the great Tartar invasion. At that time we had rather more than our share of it, for a pretty large flock, at least 60 strong, was located for the whole summer on fields near Southerness, where no more suitable spot could have been got, because in its native haunts it is confined to open sandy wastes, where the sun shines with a fierce heat. When in full plumage long filaments extend for a foot and a half from the wings, and the same from the tail. Another curious feature of the bird is found in the rat-like pads it has for feet. They fly with great swiftness. At that time also some of the naturalist M.P.'s got a bill passed in hot haste for the preservation of this bird for five years, but it so happened that at that moment not a single bird of the kind remained in the country, the survivors no doubt having gone back to Chinese Tartary, and none have been seen here since.

The Black Winged Stilt has the distinction of having the longest legs of any known bird in proportion to its size. We might be a little proud of the fact that it was first recorded as a British species from a specimen got here.

Sir Robert Sibbald's "Scotia Illustrata" (1684) records that "this bird was sent to me by William Dalmahoy, one of the officers of the King's Bodyguard, who is very skilled in the history of birds, and who transfixt it by a spear in a lake near the town of Dumfries, where another was also afterwards stabbed, and lost by the carelessness of a soldier." It is interesting to note that the family of Dalmahoy is still serving its country in the same way as that old soldier did.

Of the Night Heron only one is recorded in this area, as taken in the river Cluden in 1825, and the specimen, which belonged to the late Sir William Jardine, is in the Royal Scottish Museum.

The Whiskered Tern is an exceedingly interesting bird of the gull family. It was found in 1894 in the little loch at Friars' Carse, and I had it sent to Edinburgh, where it is one of the particular treasures in the museum, being the only one recorded from Scotland.

II.

AUTUMN OR WINTER VISITANTS.

The Great Grey Shrike—One of the butcher-bird family, a very rapacious lot, distinguished by their curious habit of catching bumble bees, mice, small birds, etc., and impaling them upon thorns for convenience in taking them for food. Every winter for a long series of years one or more visitants of the kind was reported, but during the last half-dozen years I have not been made aware of any more occurrences here.

The Mealy Redpole—One of the Arctic forms of the common redpole. It is bigger than our own, is of a peculiar mealy tinge, and only visits us when we have somewhat Arctic conditions of weather. We had them in 1879, again in 1895, and none afterwards occurred till the winter of 1900.

The Greater-spotted Woodpecker may have bred in this area at one time, but does not do so now, although there is more than a suspicion that it has bred in Eskdale in recent years, but in the ordinary way it never comes to us till early in the winter.

The Wood Sand Piper—An occurrence of this bird was recorded by Mr Bell of Castle O'er, who read an interesting paper on the subject to this Society some years ago.

The Green Sand Piper is of tolerably frequent recurrence now, although at one time a rarity. The Smellie Watson catalogue says of it:—"This beautiful little bird I shot on the marshy ground behind Carlingwark House, Castle-Douglas, when shooting snipes. On the wing it appeared so white that it resembled a snowball, and its flight was not unlike that of a common snipe, but not so quick. None of my friends in that neighbourhood had ever met with one of the species before. Sir William Jardine thought this a very fine specimen."

The Spotted Redshank is a very scarce bird, and it is only within the last few years that we were able to establish it as a real migrant here. Those acquainted with the cries of the wild fowl were quite convinced of having heard it, but until Mr M'Call

shot a specimen at the mouth of one of the creeks at Carsethorn in October, 1900, its occurrence was not authenticated.

The Ruff is a bird of considerable interest for the part it used to form in the feasts in the olden time. In historical annals there are accounts of the feasts the bishops held when many thousands of fatted ruffs were served up.

The Little Stint is one of those Siberian birds which in their migration south pass through our area for a few days only early in September. Here in the Solway area we are a little too far west to get anything like a proper share of these birds from the Siberian and Russian regions. A closely allied species is Temminck's stint, which has occurred only once.

The Little Bittern is from the marshes of the Danubian region. Only one instance as far as I know has occurred. Another is alleged to have been got near Lochmaben, but I have not been able to authenticate it. I have a letter from the famous historian of the Cumberland birds, late Rev. H. A. Macpherson, whose untimely death a few years ago ornithologists have not yet ceased to deplore. In it he wrote of a little bittern which "was shot at a place called the Woodhouse, on the Kirtle river between Kirkpatrick and Kirtlebridge, by its present owner, Mr Sharp of Hodgson's Court, Cumberland Street, Carlisle, in the early summer of 1874."

Baillon's Crake—One specimen of this bird was got near Lochmaben by Sir Wm. Jardine in 1835, and another was got near Stranraer in 1875.

The Snowgoose is one of these American forms which we manage to get sometimes. There was a flock seen in 1881 in Cumberland, and one of these birds turned up in the nets at Newbie.

Of the Gadwall, one of the rare "teal" tribe of ducks, one was got at the mouth of the Nith.

Of the Garganey we have had at least two. One of them was got near Glenluce in 1879, and another later on at Kirk-michael. These are now looked after by sportsmen, so that, no doubt, we will get a fair proportion of the tame reared ones in time.

An exceedingly interesting bird is the Blue-winged Teal. In January, 1863, one was shot by the late Mr Shaw, a celebrated keeper on Drumlanrig estates, who was the first to investigate the

sequence of life in the salmon by proving that the pars were really the young of salmon, who also introduced the roe deer into this district, and tried unsuccessfully the introduction of the ptarmigan, and was very successful in introducing the grayling. The bird he shot was sent to Sir William Jardine, and is now in the collection of the Royal Scottish Museum. Strange to say, no other specimen has ever occurred in any part of Europe, so that we have here an unique distinction.

The Roseate Tern is one of the prettiest of the species. While alive it shines with a brilliant gloss, and on the under side there is a rosy tinge, which fades immediately after death. It has been seen on Rough Island at the mouth of the Urr by myself and others.

The Grey Phalarope breeds far to the north, but as each recurrent October or November comes round, if we have at the time of migration a roaring north-western gale, we are certain to find numbers round our coast. At that time they are absurdly tame, and, if you happen to come on one in a little pool of water, it is a pleasure to see how innocently it looks up without fear of the human face.

The Red-necked Phalarope visits the Solway with extreme rarity, which is all the more curious as it breeds at two or three stations along the Hebrides and in Shetland, so that it must pass over this district, though it never seems to alight here.

A few of the Great Snipe have occurred from time to time, and one instance occurred last autumn at the Brae, Lochrutton.

The Black-tailed Godwit used to be a feature of the feasts in the olden time, but is now rare in this country. A few have been seen at the mouth of the Nith.

Of the American Bittern we have only three records.

Wild Swans are very interesting to the naturalist or lover of wild life. Three of them are known here—two with certainty. The whooper swan is seen when we have a sufficiently hard winter. It seldom comes before December, and those who hear its curious trumpet-like calls as it passes, flying in the midst of a gale or rising tempest, can never forget the feeling it engenders. It is compared to the sound of a pack of hounds in the distance, but there is something more weird and unearthly accompanying it than the cry of the hounds. In Northern Germany and Russia it is always said that these sounds are heard when the Demon

Huntsman and his hounds are out, and the superstitious peasantry crouch closer round the fire when the ominous sounds swell on the rising gale.

Bewick's Swan is smaller and slimmer. One was got at Southwick, and was kept for some months until it recovered from a wounded wing, when one day it walked out to a knoll, rose in the air, and disappeared.

The Long-tailed Duck is very familiar as the "calloo" to those who journey up the West Coast in summer and early autumn, and it is so named from its call. Up till recent years, none were seen any nearer than the Ayrshire coast, but within the last ten or twelve years little parties have been finding their way round the Mull of Galloway into our waters, and a few have even got inside Southernness.

A very interesting species is the Velvet Scoter. Those who are at Southernness in the winter are attracted by the large flocks of black ducks diving into the water. One in five hundred is white-spotted on the wing, and such are not freaks but a distinct species known as the velvet scoter.

The Smew is another rare Siberian duck which visits us in the winter.

The Red-necked Grebe is scarce on the west, but common on the east coast.

Of the pretty Little-eared Grebe we have only one record locally, that of a pair shot in 1863 at Castledykes pool.

A specially interesting species is that of the Little Auk, which is found as far north as any navigator has penetrated towards the North Pole. We had, perhaps, a dozen specimens found in our area a few years ago at the time of what was called the "wreck of the little auk," when caught by a gale they were dashed against our shores, but since then it has not again occurred among us to my knowledge.

The Black Tern at one time bred in Cumberland, and threatened to breed in Solway Moss, but did not. Since then it turns up in the autumn months at odd intervals.

The Little Gull from the Persian and Caspian region shows a tendency to extend its migration far to the west in the early part of the winter, owing perhaps to the fact that here in the north-west part of Europe we have as mild a time during winter as anywhere on the continent.

The Glaucous Gull, and along with it the Iceland Gull, are species of which we have only some very old records.

The Skuas, Richardson's, Buffon's, and the Pomatorhine. They are a curious race of rapacious gulls, which follow weaker ones, make them disgorge their prey, which they then seize before it reaches the water. Richardson's occurs most often, Buffon's is an occasional visitor, and the Pomatorhine is the least common.

Those who have had an opportunity of going on the Solway in a trawler or whammel boat will have seen the Fulmar, which comes within two or three miles of our coast, confining its feeding grounds entirely to the channel a few miles out. Along with it may be seen the Manx Shearwater.

The Black Guillemot has been suspected of breeding on the rocks at the mouth of Luce Bay, but the fact has not been authenticated.

The Storm Petrel and the Fork-tailed Petrel—Curious birds of ill omen, which follow vessels in time of distress. Occasionally on a very dark day in November I have seen the second named flying around Southernness point in small parties, evidently mistaking the gloom of mist and rain for the shades of evening coming on, most of them being nocturnal.

III.

BREEDING RARITIES.

The first I mention of this class is the Pied Flycatcher, which was supposed to be confined to Westmorland and Derbyshire, but within a short period of about 20 years it has been found breeding in our area. It is a specially interesting little bird.

The Lesser Whitethroat is of peculiar interest as a Scottish species. I remember reading in a paper given to this Society by a gentleman from Moniaive that it was pretty common round there, but whatever species may have been mistaken for it, it certainly was not the lesser whitethroat. In all my experience I have only met with it on two occasions, and although I have heard its peculiar note at times all my endeavours to get a local specimen have failed. A few months ago I addressed the Natural History Society of Glasgow, and said that probably Eskdale was the furthest northern station where the lesser white-throat would be found fairly regularly as a breeding species.

Following that a gentleman from Hurlford wrote to the newspapers and said that was all nonsense, as any amount of them could be got there. Some of my friends in Glasgow were delighted to hear it, and the gentleman took them down to see the birds, but they turned out to be the common whitethroat.

The Turtle Dove is the subject of the inspired writer's beautiful description of spring—"The voice of the turtle is again heard in the land." It comes from Barbary and other countries of Northern Africa, and settles down in the sylvan shades of England, and if you ever listened to its soft melody there you would appreciate the poetic description to the full. It comes over the Border very seldom.

The Quail is the familiar bird of historic literature, but by no means well known to us in the bodily form. Long ago it must have been of annual occurrence, because old people will tell you how they listened to the calls of the quail in the summer evenings. During all my experience the quail has never been seen except in the fine season of 1893, when they suddenly descended on all the fields of ryegrass between Cumnock and Annan, and no one could understand what their peculiar calls were until the mowers discovered their nests. The chick shown is that of a quail taken on the farm of Rotchell.

The Spotted Drake shown was got at the pond of Terregles.

The Great Crested Grebe completes the list of breeding rarities. During the last few years it has been found breeding at Lochmaben and the White Loch of Myrtoun, where Sir Herbert Maxwell affords a refuge to all such.

IV.

HISTORICAL SPECIES.

Of the Crane, the Rev. H. A. Macpherson, to whom I have referred, wrote—I can find no evidence of cranes having ever bred in Scotland, but that the bird was well known in Scotland and much sought after in the sixteenth century is indisputable. As for instance the accounts of the Lord High Treasurer of Scotland contain the following:—"1503. Item, the XXI. day of December, to ane man brocht quik crannes and quik pertrikis to the King fra William Cunninghame of Dumfries—five shillings."

That is very interesting, but it must not be forgotten that

country people called the ordinary heron a crane, and it is possible there may be some little confusion.

The Bittern—Nearly 300 years ago Dr Archibald in writing of the fauna of Dumfries mentioned biltour as found very frequently on the land.

The Chough shown came from Islay, but at one period it was exceedingly common round our shores from Colvend to Portpatrick. At present I am not aware that it breeds anywhere along our coast.

Ptarmigan—Up till 1825 these were to be found on our hill-tops. In the Dungeon of Buchan one was shot so lately as 1828, the last recorded. The late Duke of Buccleuch tried to introduce them at Wanlockhead, but there was a sequence of mild winters, and they disappeared.

V.

ACCIDENTALS OR CASUALS.

The Red-backed Shrike was only once found at Lochmaben.

The Waxwing, a curious bird, the appearance of which people long attributed to forebodings of war or pestilence, or other calamities, was long a mystery in the matter of the place of breeding, until in 1854 it was found breeding in great numbers in Lapland. It is very rare here.

Of Richard's Pipit there is an authentic occurrence as having taken place in Terregles.

The White-winged Crossbill is said to have occurred in Dunscore.

The Rose-coloured Pastor comes to us at long intervals from the Far East. It is said in Southern Europe to follow up the swarms of locusts, and feed on them, and is reckoned to be one of the means whereby the locust is kept in check.

The Nutcracker is said to have occurred in Wigtonshire a few years ago.

VI.

INTRODUCED BIRDS.

Of the Red-winged Starling we have only one occurrence, recorded in Sanquhar. No doubt it came from Inveraray, where, after the Marquis of Lorne's return from the Governor-Generalship of Canada, the introduction of 200 of the red-winged starling

was a failure. They remained during the summer, and totally disappeared in the autumn when the migration fever set in.

The introduction of the Capercaillie was also a failure. The late Duke of Buccleuch proposed to introduce them at Sanquhar, and the eggs were successfully hatched, but the birds disappeared. Several years later a couple of specimens were found at Glenapp, no doubt stragglers from an introduction by the late Duke of Hamilton.

The Virginian Quail was introduced by Mr Shaw at Drumlanrig, but also disappeared. Had the proper conditions been observed it might have become one of the local species, because they have been successfully introduced in Norfolk and other English parts, and give good sport.

VII.

ALLEGED OCCURRENCES.

The Black-throated Thrush is a Siberian species which comes to England in very hard weather. One is said to have been seen at Kirkconnel in 1895 during the fearful snowstorm of that year.

The Black Redstart is alleged to have occurred and bred here, but I venture to think the statement was on totally erroneous grounds, because over and over again I have been asked to come and see its nest, and greatly to my disgust on every occasion it has turned out to be that of the common redstart only.

The Nightingale—Whenever a good warm dry summer occurs, when such species as the sedge warbler begin to sing at night, their songs are attributed to the nightingale, and we are sure to see in some newspapers a paragraph that the bird has been here—but not seen.

The Wood Lark, according to the Old Statistical Account, is said to have been seen in Dumfriesshire, but up to date it has not authentically been found here.

The Pine Grosbeak—There is a very interesting old record in the Statistical Account of Kirkmichael parish by Dr Burgess, a very well-known botanist, who gives the pine grosbeak as one of the birds of his parish, but contemporary writers also say that the crossbill was unusually common in Kirkmichael, so that no doubt he wrote down grosbeak instead.

The Green Woodpecker is said to have occurred at

Munches, and is given in the very good and authentic list of Colvend parish, but not one of the European woodpeckers is less given to wandering, and those who say they have not occurred in Scotland are entitled to be heard.

The Great White Heron is said by two good naturalists, Mr Bruce, Dalshangan, and Mr M'Kie, Kirkcudbright, to have occurred on the Dee in the hard winter of 1879, and as specimens were got in England in that winter probably they were correct.

The Common Skua is a bird of which the Shetlanders are as proud as an English squire is of his pheasants. An old record says it is occasionally met with on the Solway Firth, but there is nothing to authenticate it.

The Ivory Gull, an Arctic species, is said to have been seen on the Solway Firth, but as an albino of the herring gull was got shortly after, there seems little doubt the record must be rejected.

2nd June, 1905.

Chairman—The PRESIDENT.

The President stated that a letter had been received from Mr J. A. Moodie, honorary secretary and treasurer, resigning these offices, and that the council had remitted to a committee to draw up a minute expressing the thanks of the Society for his services. The minute was submitted and approved of. It referred to Mr Moodie's services as secretary for three and as treasurer for sixteen years, and expressed the Society's appreciation of his services in these capacities.

It was also intimated that Mr Samuel Arnott had consented to act as interim secretary, and Mr Mathew H. M'Kerrow as interim treasurer. The appointments were unanimously confirmed.

NEW MEMBER.—Rev. James Law, South United Free Church, Dumfries.

EXHIBITS.—From Mr T. Hope-Bell, Morrington, tiles from Summer Palace, Pekin, a number of fossils, corals, gold quartz

from Rosario, and other specimens; from Miss M. Carlyle Aitken, fruit of *Bignonia*, fruit of Brazil nut, *Martynia* fruit, together with a number of other valuable and interesting exhibits; from Mr R. Service, spray of common holly, showing four successive years' growth, flowers of *Ixiolirion*, specimen of Old Man Cactus—*Pilocereus senilis*; from the President, plants of *Brodiaea ixioides*, *Oenothera tenella?* from Chili, *O. odorata*, an *Acæna*, *Camassia esculenta*, etc.; from the Secretary, *Lychnis diurna variegata* and *Arisarum proboscideum*; from Mr Kennedy, teacher, Holywood, Soland Goose, captured in Holywood in 1902, and which he now presented to the Society; from Dr Martin, a photograph of a stone in Holywood Churchyard; from Mr R. Service, coins of reign of Queen Mary, found at Kirkcudbright, a coin found at Carruchan, a stone hammer found in Kirkbean, and one found in Holywood, and a specimen of the Cockchafer beetle; from Mr Charles Cumming, Dumfries, a large number of Roman and other coins; from Mr George Irving, Corbridge-on-Tyne, a burgess ticket of Lochmaben conferred on George Sharp, advocate, Laird of Hoddum, in 1731.

Interesting information regarding these exhibits was given by the President and others.

Mr Kennedy was thanked for presenting the Soland Goose to the Society.

Dr Martin contributed a number of valuable notes regarding the old stones in Holywood Churchyard, an interesting inscription from a figured stone in Irongray Churchyard, and several epitaphs from local churchyards.

EXPERIMENTS WITH CUTTING LEAVES OF PLANTS. By Mrs ATKINSON, Dumfries.

The following is an experiment tried on six plants, viz., a *Schizanthus*, a *Hydrangea*, a *Geranium*, a *Primula*, a *Calceolaria*, and a *Cineraria*, of cutting their leaves at the edge and across the centre of leaves. At first very little action took place; afterwards the leaves of the *Schizanthus* began to shrivel and curl up. Unfortunately, the plant got nipped by the frost, so no further observations were possible. In the case of the *Hydrangea* the cuts at the edge of the leaves became discoloured; those in the centre split up in an opposite direction to the cuts

and looked somewhat dead at their edges. In about six weeks' time the leaves fell from the plant. The cuts on the leaves of the Geranium at first looked as though they were inclined to re-unite, very minute filaments formed at the edge of the cuts, looking as if they might knit the cut parts together again, eventually the leaves turned yellow, and dropped from the plant. The cut leaves of the Primula became very ragged at the edge of the cuts, the leaves became discoloured and decayed, and they finally shrivelled up and died. The centre cuts in the leaves of the Calceolaria spread in all directions, more so than the cuts at the edge of the leaves. After a time the leaves became limp, and the cuts becoming black, in the end the leaves died. The Cineraria's leaves that were cut curled up very much at the edges, the centre cuts had several little notches at the edges, they split away from the main cuts, and all the cut leaves died.

FIELD MEETINGS.

On account of the number of papers, etc., it has been found necessary to condense the reports of the Field Meetings held in 1905, which were well attended, and, as a rule, of a highly interesting nature.

Lincluden College—10th June, 1905.

Lincluden Abbey was visited, and Mr James Barbour explained the history and leading architectural features of the College and the Abbey, which was originally built on the site.

NEW MEMBERS.—Rev. S. Dunlop, Irongray Manse, and Mr H. Leighton Hare, Lochvale.

Kirkconnel, Newabbey—24th June, 1905.

By kind permission of Colonel Maxwell Witham, the Society visited Kirkconnel, Newabbey, where the members spent a most enjoyable afternoon, inspecting the old tower and mansion, the gardens (full of interesting plants), and the fine grounds.

Colonel Maxwell Witham kindly entertained the party, which numbered about 40, to tea.

BUSINESS MEETING.

Chairman—The PRESIDENT.

Colonel Maxwell Witham, Mr R. Maxwell Witham, and Miss Maxwell Witham were accorded a vote of thanks for their kindness.

NEW MEMBER.—Dr Joseph Hunter, Dumfries.

*Thornhill, Penpont, and Glenwhargen—
15th July, 1905.*

About twenty members took part in this Field Meeting, the places visited being Dr Grierson's Museum at Thornhill, the ancient devotional cross at Boatford, Penpont Church and Churchyard, and Glenwhargen Craig. At the Museum, which was open to the party through the courtesy of the Trustees, Mr and Mrs Kerr were most attentive, and before leaving a hearty vote of thanks was accorded to them. Mr James Barbour acted as cicerone at the Devotional Cross, and pointed out its architectural and other features, drawing attention to the fact that it differed greatly from the engravings hitherto published. At Penpont Rev. A. Paton and Mr R. Robson acted as guides, and at Glenwhargen Dr Mair Robertson kindly provided a most enjoyable repast for the members present. At the close a hearty vote of thanks was accorded to Dr Robertson for his kindness in providing the refreshments, and for his assistance in making the arrangements, and also to Mr R. Robson for so much assistance willingly given in making the arrangements.

NEW MEMBER.—Mr Hugh Steuart Gladstone, yr. of Capenoch.

Lochmaben—29th July, 1905.

Despite a stormy day, about 20 visited Lochmaben, where Provost Halliday, Rev. R. Neill Rae, and Mr Cameron accompanied them round the principal places of interest. During the earlier part of the afternoon Rev. Mr Rae acted as guide, and a visit was paid to the old camp near the station, the site of the Roman road, a number of old buildings, and the Church and Churchyard. A visit was then paid to the Town Hall, where Provost and Mrs Halliday had kindly provided tea, and where the party was joined by Mr E. B. Rae, town clerk, who exhibited several antiquarian objects belonging to the ancient Royal Burgh.

After tea a short Business Meeting was held, when, on the motion of the President, seconded by Dr J. Maxwell Ross, Provost and Mrs Halliday were warmly thanked for their kindness

and hospitality, and Rev. R. Neill Rae was heartily thanked for his services as guide.

NEW MEMBERS.—Mrs Murray of Murraythwaite; Mr Charles Palmer, Woodbank, Dumfries; and Mr J. Wilson, solicitor, Dumfries.

Birdoswald Camp, Lanercost Priory, Naworth Castle, and Brampton—19th August, 1905.

A considerable party travelled by train to Gilsland, where they were met by Mr F. Penfold, Brampton, who kindly acted as guide in lieu of his brother, Mr Henry Penfold, who had kindly drawn up the programme for the day. After seeing the Roman Wall near the station, and Mumps Ha', the party drove to Birdoswald Camp, which was inspected under the guidance of Mr George Irving and Mr F. Penfold. Driving along the Roman Wall, they proceeded to Lanercost Priory, where Rev. J. T. Willis, the vicar, kindly escorted them through the fine abbey, giving many historical details. The next halt was at Naworth Castle, permission to visit which had kindly been given by the Earl of Carlisle, and where the party had the privilege of being guided by Lady Cecilia and Mr Roberts, daughter and son-in-law of the Earl. Here a most interesting time was spent, and before leaving, on the call of Rev. W. L. Stephen, a hearty vote of thanks was accorded to Lady Cecilia and Mr Roberts for their great kindness.

A pleasant drive led to Brampton, where several places of interest were visited. Tea was partaken of in the Howard Arms, where a Business Meeting was held, Dr Martin in the chair. Votes of thanks were accorded to the Earl of Carlisle, Lady Cecilia Roberts, Mr Roberts, Rev. J. T. Willis, and to Mr Henry Penfold, Mr Penfold, senior, and Mr F. Penfold, the Secretary making special mention of the great kindness shown by the Messrs Penfold.

NEW MEMBERS.—Colonel Jackson, Springvale, Ayr; Mr R. Dinwiddie, Overton, Dumfries; Mr James Henderson, Braeside, Dumfries; Mr J. H. Nicholson, Airlie, Maxwelltown; and Mr J. Houston, jun., Marchfield.

Moniaive District—9th September, 1905.

About 30 took part in this meeting, the party taking train to Crossford, where conveyances were in waiting, and where they were met by Rev. T. Kidd and Mr John Corrie, who had co-operated in making the arrangements, and who acted as guides to the company. The first visit was made to the private chapel of Sir Emilius Laurie of Maxwelton House, thence the company proceeded to Maxwelton House, the home of Annie Laurie, where a considerable time was spent in examining the fine old mansion and the interesting portraits and other objects of interest, Colonel Laurie and Mr Cecil Laurie kindly guiding them over the house. Sir Emilius kindly entertained the company to lunch, Sir Emilius himself presiding at the table, and afterwards gave a deeply interesting account of the history and associations of Maxwelton. On the motion of Mr M. H. M'Kerrow Sir Emilius was warmly thanked for his great kindness.

Resuming their seats the party proceeded to Glencairn Churchyard, where Rev. Mr Kidd pointed out the most interesting tombs, and drew attention in a most interesting way to the more notable of these. A detour was then made to pass Ingleston Moat, which time did not permit visiting, but a halt was made to allow of Mr Corrie giving an interesting account of what was known and surmised of this ancient moat. Passing through the pretty village of Moniaive, a visit was paid to Renwick's Monument, where Mr Kidd gave a short account of Renwick's origin and career. Thence the company proceeded to Caitloch, where a most hospitable reception was given by Mr James M'Call, who kindly entertained the company to tea. After tea a Business Meeting was held, under the chairmanship of Mr W. Dickie, when, on the motion of Colonel Irving of Bonshaw, a hearty vote of thanks was accorded to Mr M'Call for his hospitality, and to Miss M'Call and Miss Martin of Dardarroch for presiding at the tea table.

NEW MEMBERS.—Miss Mond, Aberdour House, Dumfries; Mr A. E. Johnson-Ferguson, yr. of Springkell, Wiston Lodge, Lamington; and Mr T. G. Armstrong, Rae Street, Dumfries.

Several interesting old books were examined at Caitloch, and a number of the party visited the Covenanters' Cave on the estate,

while others spent some time in the pretty garden, and before leaving a photograph of the company was taken by Mr Kidd. On the return journey a short time was spent in the village of Moniaive, once a burgh of regality, and in examining the old Town Cross.

Dumfries and Maxwelltown Sewage Purification Works—23rd September, 1905.

The concluding Field Meeting took place on the above date, when a considerable number of members visited the Sewage Purification Works of the Burghs of Dumfries and Maxwelltown. Those at Dumfries were first visited, the company proceeding to the Castledykes, where Mr John Barker, sanitary inspector of Dumfries, kindly escorted the party over the works, and gave full explanation of the different steps in the purification of the sewage. Thereafter a short Business Meeting was held, under the chairmanship of Mr W. Dickie, when Mr John Barker was admitted as a member of the Society. On the motion of Dr J. Maxwell Ross a hearty vote of thanks was accorded to the Town Council of Dumfries for giving permission to inspect the works, and to Mr Barker for his courtesy and valued services in showing the party over the works. Crossing the Nith by boat, kindly lent by Mr Charles Turner, the company next visited the Maxwelltown Works, where Dr J. Maxwell Ross pointed out the leading features of the works and gave a number of explanations regarding the process in reply to questions. Mr Cruickshank, sanitary inspector of Maxwelltown, was also in attendance, and Provost Herries was present. On the motion of Dr J. W. Martin, the Town Council of Maxwelltown was thanked for permission to visit the works, and thanks were accorded to Provost Herries for his attendance, to Dr Maxwell Ross for his information and explanations, and to Mr Cruickshank for his services.

DONATIONS

For the Three Sessions.

Reprint of Mr James Barbour's paper on Rispain, from Mr Barbour.

Old Implements used by workmen at Castledykes Old Quarry, discovered during excavations there, presented by Mr M'Kay.

Limelight Lantern and Screen from Professor G. F. Scott-Elliot.

A Collection of Minerals, Fossils, and Geological Specimens, also Ancient Coins collected in Egypt in 1864, from Miss Maxwell, Nunbank.

- (1) Rules and Regulations of the Dumfriesshire and Galloway Benefit Society, instituted in London, 14th March, 1820. (2) "Dumfries Monthly Magazine," June, 1826. (3) "Reading made Easy," published in Dumfries, 1824. (4) "Bible Lessons," by Rev. Thos. T. Duncan, minister of the New Church, Dumfries, 1816. (5) "Dumfries Album," 1857. (6) "Report of the great Demonstration at Sanquhar on 22nd July, 1860. (7) Catalogue of the Society's Exhibition in the Mechanics' Hall, 1873. From Rev. R. W. Weir.

Discharge and Assignation, dated 18th August, 1673, granted by Alexander Maxwell of Buittle, and William Glendonynng of Parton, in favour of Adam Wright, in Cairgane, and James Hutchison, in Troqueer, from Mr Thomas Fraser, Dalbeattie.

Portrait of the late Sir William Jardine, Bart. of Applegarth, from Miss Maxwell, Nunbank.

Fossil from Welsh Limestone, from Mr Bulkley Hughes.

Copy of the first number of the "Edinburgh Courant," February, 1705; a print from the "Gentleman's Magazine," of Old Bridge of Dumfries, in 1793. From Miss Henderson, London.

Two MS. Volumes of Notes of Weather Observations taken at Dunscore from 1st January, 1884, to 31st December, 1891, from Dr Callander.

Burial Urns discovered in Maxwelltown Public Park, from Mr James Barbour.

From Mr John Maxwell, Tarquah—(1) Specimen of Native Cotton, grown in Sikondi; (2) Coffee Beans, grown at Tarquah; (3) Piece of Wood used by natives as a toothbrush; (4) Specimen of Bush Creeper; (5) Report of Botanical Department of the Gold Coast Government for 1901.

From Mrs Thompson, Castle Street—(1) Historical Essay, by James Anderson, Edinburgh, 1725; (2) "Wallace or Fight of Falkirk," London, 1820.

Copy of Circular issued by Mechanics' Institute in 1859, from Mr Smith.

(1) Guide to the Gallery of Birds, 1905; (2) Guide to the Fossil Mammals and Birds; (3) How to collect Diptera; (4) Blood sucking flies and how to collect them; and 23 other volumes. From Trustees of British Museum.

EXCHANGES.

- Banffshire Field Club—Transactions, 1900-01.
- Berwickshire Natural History Field Club—Transactions, 1901-1901-02, Vol. XVII.
- Bureau of Ethnology of United States—Publications, Vol. 26; Bulletins, Nos. 95 and 96; 19th Annual Report, Parts 1 and 2, 1897-8; 21st and 22nd Annual Reports, 1899-1900 and 1900-1.
- Canadian Institute—Transactions, October, 1902, No. 2 of Vol. VII., No. 3 of Vol. VII., No. 5 of Vol. II.; Proceedings, Vol. 7, Part 2, July, 1904.
- Chronological Tables of Introduction of Tobacco into various Countries.
- Cold Spring Harbour Monographs—I., 1903; II., Collambola of Cold Spring Beach, etc.
- Davenport Academy of Science—Transactions, Vol. 8.
- Edinburgh Geological Society—Transactions, Vol. 8, Sp. Part and Part 2.
- Elisha Mitchell Scientific Society Journal.
- Glasgow Natural History Society—Transactions, 1901-02.
- Marlborough College Natural History Society—Report, 1901.
- Minnesota Academy of Natural Science—Proceedings, 1890-91.
- New York Academy of Science—Annals, Vol. 14, Parts 1, 2, and 3; Vol. 15, Part 1; Vol. 14, Parts 1 and 2.
- Nova Scotia Institute of Science—Transactions, Vol. 10, Parts 1, 3, and 4. 6
- Philadelphia Academy of Science—Transactions, Vols. 53 and 54; Proceedings, Vol. 54, 1902.

Pulse and Rhythm, by Mary Hallock Greenwalt.

Rochester Academy of Natural Science—Proceedings, 4 monographs, Williamette Meteorite, March, 1904.

Smithsonian Institute—32 Monographs; 20 Monographs, from Report, 1903; Annual Report, 1901.

Staten Island Association—Vol. 7.

Stirling Natural History Society—Transactions, 1901-2, 1902-3, and 1903-4.

Sverige Antikvarish Tidshift, Vol. 17, Part 3.





