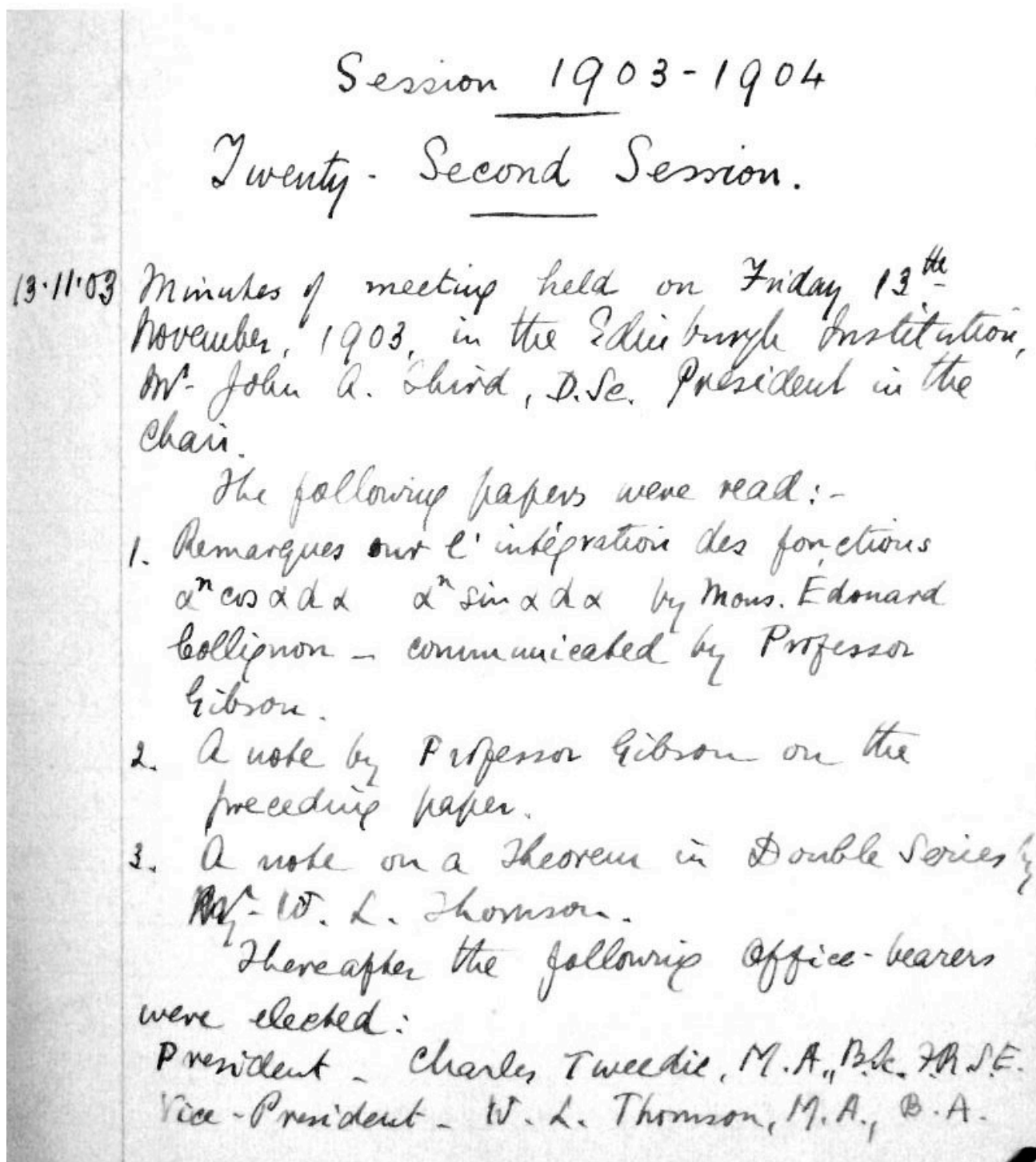


EMS Minutes: Volume 1: pages 195 to 203

1903-04: Twenty second session



Meeting: 13th November 1903

Hon. Secretary - J. G. McIntosh, M.A., F.R.S.E.
Hon. Treasurer - Jas. Archibald, M.A.
Editors of Proceedings - W. A. Lindsay, M.A., B.Sc.
(Caveater) and John Turner, M.A., B.Sc.
Committee - John A. Thuid, M.A., B.Sc.
J. Angus Macdonald, M.A., B.Sc.
Alex. G. Burgess, M.A., F.R.S.E.
Peter Pritchett, M.A.

Mr. Archibald, Hon. Treasurer, submitted the Treasurer's Report for Session 1902-1903 from which it appeared that during the year there had been paid 145 annual subscriptions, and that on the Capital Account there was a balance in favour of the Society of £16"8"2 and on the Cash account a balance of £5"8"11½ - that is, a total balance in favour of the Society of £21"17"1½. This report was of such a gratifying nature that the President formally moved the thanks of the Society to Mr. Archibald for his services.

It might be noted specially that during the year the Society had

received donations amounting in all to £15⁰10,
being £3⁰10 from Dr. Massey, £2 from Dr.
Hird and £10 from Dr. Sprague - all Ex-
Presidents of the Society.

For election at next meeting:

1. Miss Louisa Story, Mathematical Department,
George Watson's Ladies' College, Edinburgh and
2. Miss Amy Town Steele, M.A., Mathematical
Department, George Watson's Ladies' College,
Edinburgh,

Proposed by J. A. Macdonald

Seconded by D. C. Mcintosh.

3. A. Graham Donald, M.A., F.F.A. Scottish
Provident Institution, Edinburgh

Proposed by J. B. Clark

Seconded by Jas. Archibald.

4. John Anderson, M.A., B.Sc. Eskbank,
Dalkeith,

Proposed by Char. Tweedie

Seconded by Alex. D. Russell.

5. George Philip, M.A., B.Sc. The Academy,
Glasgow,

Proposed by P. Pinkerton

Seconded by J. B. Clark.

6. W. Scrimgeour, M.A., B.Sc. Mathematical
 Master, High School, Peebles.
 Proposed by J. B. Clark.
 Seconded by P. Pinkerton.
7. W^m Gentle, B.Sc. George Heriot's School,
 Edinburgh.
 Proposed by J. B. Clark,
 Seconded by Dr Morgan.
8. A. S. Ogilvie, M.A., B.Sc.
 F.C. Training College, Edinburgh
 Proposed by Dr Morgan
 Seconded by J. Turner.

W. L. Thomson

11.12.03. Minutes of meeting held on Friday, 11th December
 1903 in the Edinburgh Institution, Mr. W. L.
 Thomson, Vice-President in the Chair.

The following papers were read.

1. On some algebraic identities, by Mr. F. H.
 Jackson, and communicated by Mr. A. Milne.
2. On a form of Maclaurin's Theorem by Mr. F. H.
 Jackson; communicated by Mr. J. Turner.
3. On the quadrilateral circumscribed to two
 circles, by Mr. R. F. Davis, communicated

Meeting: 11th December 1903

by Mr. A. D. Russell.

The Secretary intimated that since last meeting of the Society, a special meeting of the Committee of the ~~Edin~~ and of certain Ex-President of the Edinburgh Mathematical Society had been held in connection with a proposal to obtain the use of the Royal Institution Building wholly and exclusively for Scottish Scientific Societies, and that application was to be made on behalf of the Edinburgh Mathematical Society.

C. Tweedie

1.04. Minutes of meeting held on Friday, 8th January 1904 in the Edinburgh Institution, Mr. C. Tweedie President in the chair.

The following papers were read:-

1. On a Theorem in Geometry, by Mr. Tweedie.
2. On a method of obtaining the fractional infinite series for $\operatorname{cosec} x$, $\sec x$, $\cot x$ and $\tan x$, by Mr. D. K. Picken.
3. Note on the method of finding the Particular Integral of the Differential Equation
$$f(D)y = \sum_1^n a_r x^r$$
 by Mr. D. K. Picken.

Meeting: 8th January 1904

12. 2. 04.

Minutes of meeting held on Friday 12th February in the Edinburgh Institution - Mr. Tweedie, President, in the Chair.

The following papers were read:

1. On a Theorem in Geometry - by Mr. Chas. Tweedie.
2. A basic sine and cosine with symbolical solutions of certain differential equations - by Rev. J. H. Jackson - communicated by Mr. A. G. Bonyers.

Mr. William Miller, M.A. George A. Clark Fellow in Mathematics and Natural Philosophy at Glasgow University was elected an ordinary member - having been at a previous meeting proposed and seconded by Mr. D. K. Picken and Mr. A. G. Bonyers.

C. Tweedie

11. 3. 04.

Minutes of meeting held on Friday 10th March in the United Free Church Training College, Glasgow - Mr. Tweedie, President in the Chair.

The following papers were read:

1. The use of symmetry in Geometry - by Mr. J. W. Butts.
2. Some points in Diophantine Analysis -

Meeting: 11th March 1904

by Mr Alexander Holm.

3. On the Linear Matrix Equation - by Mr. J. MacLagan Wedderburn.

There were nineteen members present.

C. Tweedie

13.5.04.

Minutes of meeting held on Friday 13th May in the Edinburgh Institution, Mr Tweedie, President, in the chair.

The following papers were read:-

1. The treatment of tangents in recent textbooks of Elementary Geometry, by Professor Gibson.
2. Minimum Deviations - Geometrical Proofs, by Dr Muirhead.
3. Note on the Power of a point and on the signs $+$ and $-$ in certain questions in Coordinate Geometry - by Dr Muirhead.
4. Solution of a Geometrical Problem, by Dr Muirhead.
5. Certain series of Generalised Bessel Functions, by J. H. Jackson, communicated by A. S. Briggs.

On the motion of Mr Pinkerton, seconded by Mr Briggs, Mr E. B. Ross, M.A.

Meeting: 13th May 1904

5 Rieinfurth Square, Edinburgh was proposed for election as an ordinary member of the Society.

Mr J. W. Peck, H. M. I. S. 22 Duke Street, Edinburgh proposed at a recent meeting of the Society for membership by Mr. P. P. Pickerton, and seconded by Mr. Picken was duly elected an ordinary member of the Society.

John S. Mackay

10. 6. 04, Minutes of meeting held on Friday, 10th June, ¹⁹⁰⁴ in the Edinburgh Institution, Mr. W. L. Thomson and afterwards Dr. Mackay in the Chair.

The following papers were read.

1. The turning values of a Cubic Function and the nature of the Roots of a Cubic equation - by Mr. P. P. Pickerton.
2. Note on Newton's Theorem of symmetric Functions, by Mr. Chas. Tweedie.
3. Note on a certain transversal to a triangle or quadrilateral, by Mr. Pickerton.

Dr. Mackay stated that it was expected the Index-Volume to Volumes I-~~XX~~ of the Proceedings would be ready for issue before the

Meeting: 13th June 1904

beginning of next session. It was agreed to print
500 copies of the Index Volume. The sale of Copies of the Proceedings
^{to non-members}
~~was~~ considered at the request of Messrs Williams and Norgate.
It was agreed on the motion of Mr. Parkerton to
approve of the Committee's suggestion that a notice
be inserted on the cover of the Proceedings to the
effect that non-members desiring Copies of the
Proceedings can be supplied only through Messrs.
Williams and Norgate.

The Chairman finally moved a vote of thanks to
Mr. Turner, Headmaster of the Institution, for his
kindness in allowing the Society the continued use
of the Institution Rooms for the Society's meetings,
and the Secretary was instructed to communicate
this to Mr. Turner.

Charles Tweedie

Edinburgh Mathematical Society.

TWENTY-SECOND SESSION, 1903-1904.

THE SECOND ORDINARY MEETING for this Session will be held on *Friday, 11th December, at Eight p.m.*, in the EDINBURGH INSTITUTION, 8 QUEEN STREET.

BUSINESS:

1. Some Algebraic Identities, - - - - - F. H. JACKSON.
(To be communicated by A. MILNE.)
2. A Form of Maclaurin's Theorem, F. H. JACKSON.
(To be communicated by J. TURNER.)
3. On the Quadrilateral circumscribed to two circles, - R. F. DAVIS.
(To be communicated by A. D. RUSSELL.)

OFFICE-BEARERS FOR SESSION 1903-1904.

President, - - - CHARLES TWEEDIE, M.A., B.Sc., F.R.S.E.
Vice-President, - - W. L. THOMSON, M.A., B.A.
Hon. Secretary, - - DONALD C. MCINTOSH, M.A., F.R.S.E.
Hon. Treasurer, - - JAMES ARCHIBALD, M.A.

Editors of "Proceedings."

W. A. LINDSAY, M.A., B.Sc. | JOHN TURNER, M.A., B.Sc.

Committee.

JOHN A. THIRD, M.A., D.Sc.
ALEX. G. BURGESS, M.A., F.R.S.E.
J. A. MACDONALD, M.A., B.Sc.
P. PINKERTON, M.A.

D. C. MCINTOSH, *Hon. Sec.*,
37 WARRENDER PARK TERRACE.

The following Candidates for Membership will be balloted for at this meeting :—

(1) LOUISA STORY, Mathematical Department, Geo. Watson's Ladies' College, Edinburgh ; and

(2) AMY TREVOR STEELE, M.A., Mathematical Department, George Watson's Ladies' College, Edinburgh.

Proposed by J. A. MACDONALD.

Seconded by D. C. M'INTOSH.

(3) A. GRAHAM DONALD, M.A., F.F.A., Scottish Provident Institution, Edinburgh.

Proposed by J. B. CLARK.

Seconded by JAMES ARCHIBALD.

(4) JOHN ANDERSON, M.A., B.Sc., Eskbank, Dalkeith.

Proposed by CHARLES TWEEDIE.

Seconded by ALEX. D. RUSSELL.

(5) GEORGE PHILIP, M.A., B.Sc., The Academy, Glasgow.

Proposed by P. PINKERTON.

Seconded by J. B. CLARK.

(6) W. SCRIMGEOUR, M.A., B.Sc., Mathematical Master, High School, Peebles.

Proposed by J. B. CLARK.

Seconded by P. PINKERTON.

(7) WM. GENTLE, B.Sc., George Heriot's School, Edinburgh.

Proposed by J. B. CLARK.

Seconded by DR MORGAN.

(8) A. S. OGILVIE, M.A., B.Sc., E. C. Training College, Edinburgh.

Proposed by DR MORGAN.

Seconded by J. TURNER.

FINANCIAL STATEMENT for SESSION 1902-1903.

INCOME.	CAPITAL ACCOUNT.	EXPENDITURE.	
Balance from last Session, - - - - - - - - - - -	£15 19 4	Contribution to Cash Account, - - - - - - -	£0 15 0
Sale of <i>Proceedings</i> , - - - - - - - - - -	0 15 10	Balance on hand, - - - - - - - - - -	16 8 2
Interest, - - - - - - - - - -	0 8 0		
	<u>£17 3 2</u>		<u>£17 3 2</u>
	<i>CASH ACCOUNT.</i>		
Balance from last Session, - - - - - - - - -	£27 7 0½	Printer's Account, - - - - - - - -	£78 0 0
145 Annual Subscriptions, - - - - - - - -	54 7 0	Lithographer's Account, - - - - - - -	5 4 0
1 Part Subscription, - - - - - - - -	0 5 0	Zincographer's Account, - - - - - - -	3 10 0
Contribution from Capital Account, - - - - - - -	0 15 0	Binder's Account, - - - - - - -	3 0 0
Interest, - - - - - - - -	1 5 0	Editor's Expenses, - - - - - - -	0 6 6
Donations—Dr Mackay, - - - - - - -	3 10 0	Secretary's Expenses, - - - - - -	1 3 0½
Dr Sprague, - - - - - - -	10 0 0	Treasurer's Expenses, - - - - - -	0 13 6½
Dr Third, - - - - - - -	2 0 0	Janitors' Fees, - - - - - -	1 4 0
	<u>£99 9 6½</u>	Stationery and other Expenses, - - - -	0 19 6
		Balance on hand, - - - - - -	5 8 11½
			<u>£99 9 6½</u>
		Balance from Capital, - - - - - -	£16 8 2
		Balance from Cash, - - - - - -	5 8 11½
			<u>£21 17 1½</u>

JOHN TURNER, }
A. G. BURGESS, } *Auditors.*

JAS. ARCHIBALD, *Hon. Treasurer,*
52 POLWARTH GARDENS, EDINBURGH.

Edinburgh Mathematical Society.

TWENTY-THIRD SESSION, 1904-1905.

THE SECOND ORDINARY MEETING for this Session will be held on *Friday, 9th December, at 8 p.m.*, in the EDINBURGH INSTITUTION, 8 QUEEN STREET.

BUSINESS.

1. Cubic and Quartic Functions and Equations, - - P. PINKERTON.
2. A Proof of the Addition Theorem in Trigonometry, D. K. PICKEN.
3. Two Geometrical Notes, - - - - E. COLLIGNON.

(To be communicated by the SECRETARY.)

OFFICE-BEARERS FOR SESSION 1904-1905.

President, - - - W. L. THOMSON, M.A., B.A.
Vice-President, - - D. C. M'INTOSH, M.A., F.R.S.E.
Hon. Secretary, - - P. PINKERTON, M.A.
Hon. Treasurer, - - JAMES ARCHIBALD, M.A.

Editors of "Proceedings."

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Committee.

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A. G. BURGESS, M.A., F.R.S.E.
D. K. PICKEN, M.A.
ARCH. MILNE, M.A., B.Sc.

P. PINKERTON, *Hon. Sec.*,
36 MORNINGSIDE GROVE.

FINANCIAL STATEMENT for SESSION 1903-1904.

INCOME,	CAPITAL ACCOUNT.	EXPENDITURE.	
Balance from last Session, - - -	£16 8 2	Contribution to Cash Account, - - -	£1 2 6
Sale of <i>Proceedings</i> , - - -	1 14 0	Postage of <i>Proceedings</i> , - - -	0 3 0
One Life Subscription, - - -	4 0 0	Balance in Bank, - - -	21 4 3
Interest, - - -	0 7 7		
	<u>£22 9 9</u>		<u>£22 9 9</u>
<i>CASH ACCOUNT.</i>			
Balance from last Session, - - -	£5 8 11½	Printer's Account, - - -	£41 0 0
138 Annual Subscriptions, - - -	51 15 0	Lithographer's Account, - - -	3 1 6
Contribution from Capital Account, - - -	1 2 6	Binder's Account, - - -	2 9 6
Interest, - - -	0 15 2	Editor's Expenses, - - -	0 6 6
Cheque Commissions overpaid, - - -	0 1 0	Secretary's Expenses, - - -	0 11 0
Donation—Professor Carslaw, - - -	5 0 0	Treasurer's Expenses, - - -	0 14 2
	<u>£64 2 7½</u>	Janitors' Fees, - - -	1 4 0
		Stationery, - - -	0 12 11
		Bank Charges on Cheques, - - -	0 2 6
		Balance in Bank, - - -	14 0 6½
			<u>£64 2 7½</u>

INDEX VOLUME BALANCE SHEET,

November 1, 1904.

LIABILITIES.	ASSETS.		
Printer's Account, - - -	£21 12 0	Donation—Mr J. Alison, - - -	£10 0 0
Binder's Account, - - -	2 5 0	Net Deficiency, - - -	18 17 0
Estimated Cost of Distribution, - - -	5 0 0		
	<u>£28 17 0</u>		<u>£28 17 0</u>

A. G. BURGESS, } *Auditors.*
JOHN TURNER, }

JAS. ARCHIBALD, *Hon Treasurer,*
52 POLWARTH GARDENS, EDINBURGH.

Note.—Up to date, Donations to the amount of £25, 5s. (including Mr Alison's), to defray the expenses of issuing the Index Volume, have been intimated. J. A.