

# EMS Minutes: Volume 1: pages 258 to 267

## 1911-12: Thirtieth session

Session 1911-12.

Thirtieth Session.

10. XI. 11

Minutes of Meeting held on Friday, 10<sup>th</sup> November, 1911, in the Edinburgh Institution, 8 Queen Street; Mr. Turner, President, in the Chair.

The death of Professor Chrystal was referred to by the President, and the following motion was ordered to be inserted in the Minutes:—

'The Members of the Edinburgh Mathematical Society hereby record their deep sorrow for the death of Professor Chrystal. They remember with gratitude the great services he rendered as one of the founders of the Society, and with profound admiration the brilliant gifts which he so unquidglingly devoted to the cause of science. They would join in the universal tribute of respect which is being paid to one whose unflagging zeal and consummate ability will remain a lasting memory.'

The following papers were read:—

1. The system of cubic curves circumscribing two triangles and a polar to them, by Dr. W. P. Milne.
2. An easy geometrical representation of the Serret's Covariant of a Binary Quartic, by Dr. W. P. Milne.

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Both of these papers were communicated by M<sup>r</sup> W. M' Arthur.  
3. On the numerical calculation of Natural Logarithms, by  
Dr. J. Hugh Miller, and communicated by M<sup>r</sup> Conrie.

M<sup>r</sup> Russell, Hon. Treasurer, submitted his report for  
session 1910-11, which showed that 1 life subscription and  
175 Annual subscriptions had been received, and that  
there was a balance of £115-1/- on the Capital Account,  
and a balance of £19-16-1 on the Cash Account, making  
a total balance of £134-17-1. M<sup>r</sup> Turner, in moving  
the adoption of the report, congratulated M<sup>r</sup> Russell on the  
satisfactory state of the accounts.

M<sup>r</sup> Gibb, the librarian, read his report, which  
showed that 31 periodicals had been received during the  
past year in exchange for the Society's Proceedings, and  
in addition 12 books and pamphlets had been presented  
to the Society by their authors. It also showed that  
58 periodicals had been bound during the session at a  
cost of £4-12-8. M<sup>r</sup> Gibb spoke of the essential impor-  
tance of continuing this course of binding periodicals, and  
the Committee was requested to consider the question of in-  
creasing the grant for this purpose. The President moved  
the adoption of the Report, and M<sup>r</sup> Gibb was thanked  
for his services.

The following office-bearers were elected for the session

1911-12:-

President, D. M. Y. Sommerville, M.A., D.Sc., F.R.S.E.

Vice-President, A. G. Burgess, M.A., F.R.S.E.

Hon. Secretary, Peter Currie, M.A., B.Sc., F.R.S.E.

Hon. Treasurer, Alex. D. Russell, B.Sc., F.R.S.E., F.R.A.S.

Editors of Proceedings, Neil M'Arthur, M.A., B.Sc.

Robert J. T. Bell, M.A., D.Sc.

Editor of Mathematical Notes, P. Pinkerton, M.A., D.Sc., F.R.S.E.

Committee, John Turner, M.A., B.Sc.

Professor John Miller, M.A., D.Sc., F.R.S.E.

J. A. M'Bride, B.A., B.Sc.

Alex. Leighton, M.A., B.Sc.

Library Committee, David Gibb, M.A., B.Sc., F.R.S.E.

D. Kennedy-Fraser M.A., B.Sc.

The Hon. Secretary.

Mr Burgess was, on the motion of the President, thanked for his services during the time he had been Hon. Secretary.

Mr Burgess proposed and Mr Pinkerton seconded for ordinary membership.

1. David Anderson, M.A.

Dumfries Academy.

2. John Milne, M.A.

The Academy

Greenock.

3. H. Levy, M.A., B.Sc.  
218 Dalry Road,  
Edinburgh
4. R. F. Mudie, B.A.  
Eton College,  
Windsor
5. Peter Fraser, M.A.  
Mathematical Lecturer  
The University  
Bristol  
Wm. Sommerville.

9.XII.11

Minutes of meeting held on Friday, 9<sup>th</sup> Dec. 1911.  
in the Edinburgh Institution, 8 Queen St.  
Dr Sommerville, President, in the chair.

The following papers were read:

1. The mechanical solution of an  $n$ -ic equation, & exhibition of a model for the determination of the roots of a cubic by Professor Reddie.
2. Einstein's Principle of Relativity in its kinematical aspect by Dr. Sommerville.
3. Note on Legendre's & Bertrand's proofs of the parallel-postulate by infinite areas by Dr. Sommerville.

Meeting: 9th (!) December 1911

Messrs Anderson, Milne, Levy, Mudie, & Fraser, proposed at last meeting were elected Ordinary Members.

The following were candidates for membership:

1. J. A. Donaldson, M.A.

cp Clark, 127 Marchmont Road,  
Edinburgh.

proposed by Mr Comrie & seconded by Mr Russell.

2. John Hill, A.R.C.S.

Allan Glen's School,  
Glasgow.

proposed by Mr Russell & seconded by Mr Comrie.

A. J. Burgess.

12.I.12.

Minutes of meeting held on Friday, 12<sup>th</sup> Jan. 1912, in the Edinburgh Institution, 8 Queen St. Mr Burgess, Vice President in the chair. The following papers were read:—

1. An infinite series of triangles & conics with a common pole & polar by J. A. Donaldson.

2. The condition that the family of surfaces  $\phi(x, y, z, \lambda) = 0$  may be one of an orthogonal triad by F. E. Edwardes.

3. Graphical trisection of circular arc by R. F. Davis.

The last two papers were communicated by Mr P. Ramsay.

Messrs Donaldson & Hill were elected Ordinary Members.

D.M. & Comm. 11/12

Meeting: 12th January 1912

9. II. 12.

Minutes of meeting held on Friday, 9th Feb. 1912  
in the Edinburgh Institution, 8 Queen St.  
Dr Sommerville, President, in the chair.

The following papers were read :-

1. On Graphical Integration by Professor Goldyiker,  
communicated by Dr Muirhead.
2. A mechanism for solving equations of the  $n^{\text{th}}$  degree by Dr Muirhead.
3. The Geometry of the General Pedal Curve by G. Philip.
4. An Extension of the Remainder Theorem by Wm Gentle.

The following were candidates for membership :-

1. Professor J. C. Swaminarayan, M.A.  
Gujerat College,  
Ahmedabad, India.

2. H. C. Beaven, M.A.  
Blyton College, Bristol.

proposed by Mr Bourne & seconded by Mr Burgess.

D.M.G. Sommerville

8. III. 12.

Minutes of meeting held on Friday, 8th March, 1912  
in the Royal Technical College, George Street, Glasgow,  
Dr Sommerville, President, in the chair.

The following papers were read :-

1. An analytical study of plane rolling mechanisms by G. D. C. Stokes.

Meetings: 9th February 8th March 1912

2. The Fundamental Formula for the Area of a Triangle in analytical Geometry by C. Tweedie, communicated by Mr Horsburgh.
  3. Proof of a Fundamental Relation between the Bending moment and Load Curves by E. M. Horsburgh.
  4. An Extension of Clairaut's Differential Equation by H. Levy.
- Professor Swaminarayan & Mr Beaven were elected ordinary members of the society.

The following were ~~also~~ candidates for membership:-

1. Frank Glamville Taylor M.A., B.Sc.  
Mathematical Lecturer  
University College, Nottingham.
2. Henry Thomas Herbert Piaggio M.A., B.Sc.  
Lecturer on Mathematics,  
University College, Nottingham.

proposed by Mr Cowrie & seconded by Mr McArthur.

On the motion of the President, Professor & Mrs Gibson were thanked for the hospitality they extended to the members of the society, & Professor Miller & the Governors of the Royal Technical College for their kindness in allowing the society the use of one of their rooms for this meeting.

P. Puckerton

10. V. 12.

Minutes of meeting held on Friday, 10<sup>th</sup> May 1912  
in the Edinburgh Institution, 5 Queen St.

Dr Pinkerton in the chair.

The following papers were read :-

1. Investigations on Bircular Cubics and Bi-circular  
Quartics by W.P. Milne, communicated by K. McArthur.
  2. Notice sur les recherches de MacLaurin concernant  
les cubiques circulaires by Professor Teixeira,  
communicated by Dr Bell.
  3. Note on Linear Differential Equations with constant  
coefficients by H.T.H. Piaggio, communicated by G.S. Bagen.
- Messrs Taylor & Piaggio, nominated at last meeting,  
were elected ordinary members of the society.

The following were candidates for membership :-

1. Professor E.T. Whittaker

The University, Edinburgh.

proposed by Mr Horsburgh & seconded by Mr Bourne

2. Professor J. G. Mac Gregor

The University, Edinburgh

proposed by Mr Horsburgh & seconded by Mr Hoguhart.

3. J. R. Milne D. Sc.

Lecturer on Physical Optics, Edinburgh University

11 Melville Crescent Edinburgh.

proposed by Mr Horsburgh & seconded by Mr Bourne.

Meeting: 10th May 1912



Dr Pinkerton, on behalf of the committee, proposed that Dr. R.F. Gurnishead be elected an Honorary member.

D.M. V. Sommerville

18.V.12

A Secondary Education Congress was held in Edinburgh University on Saturday, 18<sup>th</sup> May, 1912, and at 3.30 p.m. under the auspices of the Edinburgh Mathematical Society, there was a meeting of those interested in the teaching of mathematics, when nearly 100 were present. Dr Sommerville, President of the Edinburgh Mathematical Society presided & Professor Gibson of Glasgow University, <sup>gave an address</sup> on Graphical Work in School Teaching.

D.M. V. Sommerville

14.VI.12.

Minutes of meeting held on Friday, 14<sup>th</sup> June, 1912 in the Edinburgh Institution, 8 Queen St, Dr Sommerville, President, in the chair.

The following papers were read :-

1. A problem in the Linear Flow of Heat discussed from the point of view of the Theory of Integral Equations by Prof. Carslaw, communicated by Dr Sommerville.
2. Linear Substitutions & their Invariants by J. G. Taylor, communicated by J. Urquhart.
3. Two General Results in the Differential Calculus by W. Brash.

Meetings: 18th May 14th June 1912

Professors Whittaker & Mac Gregor, & Dr. Kulno were elected members, & Dr. R. F. Muirhead was elected an Honorary member of the Society.

The President proposed a vote of thanks to the Headmaster & Governors of the Edinburgh Institution for their courtesy in allowing the Society to hold its meetings in the Institution during this session, and the Secretary was instructed to convey the same to these gentlemen.

D. M. G. Donnerville.

# Edinburgh Mathematical Society.

THIRTIETH SESSION, 1911-1912.

THE SECOND ORDINARY MEETING for this Session will be held on *Friday, 8th December, at 7.30 p.m.*, in the EDINBURGH INSTITUTION, 8 QUEEN STREET.

## BUSINESS.

1. The mechanical solution of an  $n$ -ic equation, and exhibition of a model for the determination of the roots of a cubic - - - - - Prof. PEDDIE.
2. Einstein's Principle of Relativity in its kinematical aspect - - - - - Dr SOMMERVILLE.
3. Note on Legendre's and Bertrand's proofs of the parallel-postulate by infinite areas - - - - - Dr SOMMERVILLE.

## Office-Bearers for Session 1911-12.

<i>President,</i>	- - -	D. M. Y. SOMMERVILLE, M.A., D.Sc., F.R.S.E.
<i>Vice-President,</i>	- - -	A. G. BURGESS, M.A., F.R.S.E.
<i>Hon. Secretary,</i>	- - -	PETER COMRIE, M.A., B.Sc., F.R.S.E.
<i>Hon. Treasurer,</i>	- - -	ALEX. D. RUSSELL, B.Sc., F.R.S.E., F.R.A.S.
<i>Editors of Proceedings,</i>	- }	NEIL M'ARTHUR, M.A., B.Sc.
	- }	ROBERT J. T. BELL, M.A., D.Sc.
<i>Editor of Mathematical Notes,</i>	-	P. PINKERTON, M.A., D.Sc., F.R.S.E.

### *Library Committee.*

DAVID GIBB, M.A., B.Sc., F.R.S.E.  
D. KENNEDY-FRASER, M.A., B.Sc.  
HON. SECRETARY.

### *Committee.*

JOHN TURNER, M.A., B.Sc.  
Professor JOHN MILLER, M.A., D.Sc., F.R.S.E.  
J. A. M'BRIDE, B.A., B.Sc.  
ALEX. LEIGHTON, M.A., B.Sc.

Subscriptions are payable to the *Hon. Treas.*,  
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34 HEUGH STREET, FALKIRK.

PETER COMRIE, *Hon. Sec.*,  
19 CRAIGHOUSE TERRACE.

Committee Meeting at 7.20.

## Financial Statement for Session 1910-11.

INCOME.		CAPITAL ACCOUNT,		EXPENDITURE.	
1910.	Nov. - Balance, - - - -	£103	6 8	1911.	Nov. - Contribution to Cash Account, -
					£3 15 0
1911.	Nov. - One Life Subscription, -		4 0 0		Balance, - - - -
	Sale of <i>Proceedings</i> , &c., -		11 9 4		115 1 0
			<u>£118 16 0</u>		<u>£118 16 0</u>
CASH ACCOUNT.					
1910.	Nov. - Balance, - - - -	£18	0 8	1911.	Nov. - Printer's Account, - - -
					£60 3 0
1911.	Nov. - 175 Annual Subscriptions, -		65 12 6		Bookbinder's Account, - - -
	Contribution from Capital				7 7 2
	Account, - - - -		3 15 0		Insurance Premium, - - -
	Bank Interest, - - - -		3 11 8		0 5 0
			<u>£90 19 10</u>		Janitor's Fees, - - - -
					1 4 0
					Bank Charges, - - - -
					0 1 4
					Stationery, - - - -
					0 8 6
					Postages and Sundry Expenses,
					1 14 9
					Balance, - - - -
					19 16 1
			<u>£90 19 10</u>		<u>£90 19 10</u>

NEIL M'ARTHUR, } *Auditors.*  
 PETER COMRIE, }

ALEX. D. RUSSELL, *Hon. Treasurer.*