PROCEEDINGS

OF THE

ROYAL SOCIETY OF EDINBURGH.

PROCEEDINGS

OF

THE ROYAL SOCIETY

OF

EDINBURGH

VOL. XLVIII.

1927-1928.

PRINTED BY NEILL AND COMPANY, LIMITED.

MDCCCCXXIX.

CONTENTS.

	PAGE
1. The Action of "Active" Nitrogen on Iodine Vapour. By L. H. Easson, B.Sc., and R. W. Armour, B.Sc. Communicated by Dr E. B. Ludlam, M.A. Issued separately February 9, 1928,	1
2. Contribution to the Studies of the Origin of European Sheep. By B. Kaczkowski (Institute of Animal Husbandry, Jagellonian University of Cracow, Poland). Communicated by Dr F. A. E. Crew. Issued separately February 9, 1928, .	10
3. On Fourier Constants. By E. T. Copson. Issued separately March 24, 1928, .	15
4. An X-ray Examination of Saturated Dicarboxylic Acids and Amides of the Fatty Acid Series. By Edward Henderson, B.Sc., Ph.D., Chemistry Department, University of Edinburgh. Communicated by Professor Sir James Walker, F.R.S. Issued separately March 24, 1928,	20
5. Reflex Postural Adjustments of Balance in the Duck. By D. Noël Paton. (From the Physiological Institute, University of Glasgow.) (With Two Plates.) Issued separately April 11, 1928,	28
6. The Theory of Jacobians, from 1885 to 1919. By Sir Thomas Muir, F.R.S. Issued separately April 12, 1928,	37
7. Note on the Sympathetic Nervous System of Lepidosiren puradoxa. By Penelope M. Jenkin, B.A. Communicated by Professor J. Graham Kerr, F.R.S. Issued separately May 4, 1928,	55
8. The Invariant Theory of the Quaternary Quadratic Complex. I. The Prepared System. By H. W. Turnbull. Issued separately May 9, 1928,	7 0
9. Generalised Derivatives and Integrals. By W. L. Ferrar. Issued separately June 11, 1928,	92
10. The Law of Blackening of the Photographic Plate at Low Densities. (Third Paper.) By E. A. Baker, D.Sc. Communicated by Professor R. A. Sampson, F.R.S. Issued separately July 3, 1928,	106
 Salmon (Salmo salar) of the River Moisie (Eastern Canada), 1926 and 1927. By P. R. C. Macfarlane, B.Sc. Communicated by W. L. Calderwood, I.S.O. (With One Plate.) Issued separately July 3, 1928,	134
12. An Analysis of Preferential Voting. By D. M. Y. Sommerville. Issued separately July 4, 1928,	140

vi Contents.

13. Studies in Clocks and Time-keeping: No. 4. The Present-day Performance of Clocks. By Professor R. A. Sampson, F.R.S. Issued separately October 6 1928,	
 The X-ray Examination of Coal Sections.* (Preliminary Note.) By C. Normar Kemp, B.Sc., A.I.C. (With Eight Plates.) Issued separately October 6, 1928 	
15. The Invariant Theory of the Quaternary Quadratic Complex. II. The Complete System. By Professor H. W. Turnbull, M.A., and J. Williamson, M.A., Ph.D Issued separately November 27, 1928,	
16. The Lattice Points of a Circle. By Professor J. R. Wilton, M.A., D.Sc. Communicated by Professor E. T. Whittaker, F.R.S. Issued separately January 10, 1929,	
OBITUARY NOTICES:—Robert Edgar Allardice; Daniel Elie Anderson; Walter Biggar Blaikie; Alexander Edington; Charles A. Fawsitt; Robert William Felkin (died Dec. 1926); Sir David Ferrier (Hon. Fellow); Paul H. Ritter von Groth (Hon. Fellow); John Horne; Hendrik Antoon Lorentz (Hon. Fellow); Alexander Cameron Miller; George Muirhead; Diarmid Noël Paton; Theodore W. Richards (Hon. Fellow); William Smith Syme; J. Buchanan Young, 2	
Appendix—	
Proceedings of the Statutory General Meeting, October 1927,	231
Proceedings of the Ordinary Meetings, Session 1927-1928,	234
Proceedings of the Statutory General Meeting, October 1928,	239
The Keith, Makdougall-Brisbane, Neill, Gunning Victoria Jubilee, James Scott,	
and Bruce Prizes,	242
Awards of the Keith, Makdougall-Brisbane, Neill, Gunning, James Scott, and	
Bruce Prizes,	245
Accounts of the Society, Session 1927-1928,	252
Voluntary Contributors under Law VI (end of para. 3),	260
The Council of the Society at 22nd October 1928,	261
Alphabetical List of the Ordinary Fellows of the Society at 22nd October 1928,	262
List of Honorary Fellows of the Society at 22nd October 1928,	285
Changes in Fellowship during Session 1927–1928,	287
List of Ordinary Fellows of the Society elected during Session 1927-1928,	287
Additions to Library by Gift or Purchase,	288
Laws of the Society,	292
Index,	299
Index under Authors' Names, of Papers published in Transactions.	302

^{*} The thanks of the Society are due to the Carnegie Trust for the Universities of Scotland for a grant towards the cost of the illustrations of this paper.