TRANSACTIONS

OF THE

ROYAL SOCIETY OF EDINBURGH.

TRANSACTIONS

OF THE

ROYAL SOCIETY

ΟF

EDINBURGH.

VOL. XLI.

EDINBURGH:

PUBLISHED BY ROBERT GRANT & SON, 107 PRINCES STREET, AND WILLIAMS & NORGATE, 14 HENRIETTA STREET, COVENT GARDEN, LONDON.

MDCCCCVI.

No.	I.	Published	Folymony 5 1004	1 NT -	VIIII	D.,111.13	M. 00 100F
2.0.		1 aprisited	February 5, 1904.	No.	XVIII.	$\operatorname{Published}$	May 26, 1905.
"	II.	,,	February 16, 1904.	,,	XIX.	"	May 6, 1905:
"	III.	"	March 3, 1904.	,,	XX.	"	May 13, 1905.
,,	IV.	"	April 9, 1904.	,,	XXI.	,,	June 15, 1905.
"	V.	"	May 4, 1904.	,,	XXII.	"	June 9, 1905.
,,	VI.	"	May 27, 1904.	,,	XXIII.	"	June 30, 1905.
,,	VII.	"	July 1, 1904.	,,	XXIV.	,,	July 3, 1905.
,,	VIII.	"	August 5, 1904.	,,	XXV.	"	July 3, 1905.
"	IX.	"	September 2, 1904.	,,	XXVI.	,,	July 31, 1905.
,,	Х.	,,	September 9, 1904.	,,	XXVII.	,,	July 20, 1905.
,,	XI.	"	November 19, 1904.	,,	XXVIII.	•	August 7, 1905.
,,	XII.	;;	December 14, 1904.	,,	XXIX.	"	August 30, 1905.
,,	XIII.	"	January 13, 1905.	,,	XXX.	,,	September 25, 1905.
,,	XIV.	,,	June 9, 1905.	, ,	XXXI.	,,	November 8, 1905.
,,	XV.	"	March 3, 1905.	,,	XXXII.	"	November 7, 1905.
,,	XVI.	,,	April 15, 1905.	,,	XXXIII.	,,	January 18, 1906.
,,	XVII.	**	April 18, 1905.				- •

CONTENTS.

PART I. (1903-04.)

NUMBER I On Gavanuland Functions of Languages and Dec. 1 D. 1 D. E. II.	PAGE
I. On Generalised Functions of Legendre and Bessel. By the Rev. F. H. Jackson, H.M.S. "Irresistible,"	1
II. Certain Fundamental Power Series and their Differential Equations. By the Rev. F. H. Jackson, H.M.S. "Irresistible,"	29
III. Magnetization and Resistance of Nickel Wire at High Temperatures. By Professor C. G. Knott, D.Sc.,	39
IV. The Glacial Deposits of Northern Pembrokeshire. By T. J. Jehu, M.D. (Edin.), M.A. (Camb.), F.G.S., Lecturer in Geology at the University of St Andrews. (With a Plate),	53
V. Spectroscopic Observations of the Rotation of the Sun. By Dr J. Halm, Assistant Astronomer at the Royal Observatory, and Lecturer in Astronomy at the University, Edinburgh,	89
VI. Theorems relating to a Generalisation of the Bessel-Function. By the Rev. F. H. Jackson, H.M.S. "Irresistible,"	105
VII. On Some Points in the Early Development of Motor Nerve Trunks and Myotomes in Lepidosiren paradoxa (Fitz.). By J. Graham Kerr, Regius Professor of Zoology in the University of Glasgow,	119
VIII. An Analytical Theory of the Equilibrium of an Isotropic Elastic Plate. By John Dougall, M.A.,	129
PART II. (1904-05.) IV. On the Magazines art of Strong by Thomas Mathoda with an Account of	
IX. On the Measurement of Stress by Thermal Methods, with an Account of some Experiments on the Influence of Stress on the Thermal Expansion of Metals. By E. G. Coker, M.A. (Cantab.), D.Sc. (Edin.), F.R.S.E., Assistant Professor of Civil Engineering, M'Gill University, Montreal.	200
(With Two Plates),	229

NUMBER X.	On the Spectrum of Nova Persei and the Structure of its Bands, as photographed at Glasgow. By L. Becker, Ph.D., Professor of Astronomy in the University of Glasgow. (With Three Plates), .	251
XI.	The Histology of the Blood of the Larva of Lepidosiren paradoxa. Part I. Structure of the Resting and Dividing Corpuscles. By THOMAS H. BRYCE, M.A., M.D. (With Five Plates),	291
XII.	The Action of Chloroform upon the Heart and Arteries. By E. A. Schäfer, F.R.S., and H. J. Scharlieb, M.D., C.M.G.,	311
XIII.	Continuants resolvable into Linear Factors. By Thomas Muir, LL.D.,	343
XIV.	The Igneous Geology of the Bathgate and Linlithgow Hills. By J. D. FALCONER, M.A., B.Sc. (With a Map),	359
XV.	On a New Family and Twelve New Species of Rotifera of the Order Bdelloida, collected by the Lake Survey. By James Murray. (With Seven Plates),	367
XVI.	The Eliminant of a Set of General Ternary Quadrics.—(Part III.) By Thomas Muir, LL.D.,	387
XVII.	Theorems relating to a Generalization of Bessel's Function. By the Rev. F. H. Jackson, R.N.,	399
XVIII.	On Pennella balænopteræ: a Crustacean, parasitic on a Finner Whale, Balænoptera musculus. By Sir William Turner, K.C.B., D.C.L., F.R.S. (With Four Plates),	409
XIX.	The Histology of the Blood of the Larva of Lepidosiren paradoxa. Part II.—Hæmatogenesis. By Thomas H. Bryce, M.A., M.D. (With Four Plates),	435
XX.	Supplement to the Lower Devonian Fishes of Gemünden. By R. H. Traquair, M.D., Ll.D., F.R.S. (With Three Plates),	469
		
	PART III. (1904-05.)	
XXI.	A further Contribution to the Freshwater Plankton of the Scottish Lochs. By W. West, F.L.S., and G. S. West, M.A., F.L.S. (With Seven Plates),	477
XXII.	The Nudibranchiata of the Scottish National Antarctic Expedition. By Sir Charles Eliot, K.C.M.G.,	519

CONTENTS. vii

NUMBER XXIII.	On the Internal Structure of Sigillaria elegans of Brongniart's "Histoire des végétaux fossiles." By Robert Kidston, F.R.S.L. &	PAGE
	E., F.G.S. (With Three Plates),	533
XXIV.	On the Structure of the Series of Line- and Band-Spectra. By J. Halm, Ph.D.,	551
XXV.	On the Hydrodynamical Theory of Seiches. By Professor Chrystal. With a Bibliographical Sketch,	599
XXVI.	On a Group of Linear Differential Equations of the 2nd Order, including Professor Chrystal's Seiche-equations. By J. Halm, Ph.D.,	651
XXVII.	The Tardigrada of the Scottish Lochs. By James Murray. (With Four Plates),	677
XXVIII.	The Plant Remains in the Scottish Peat Mosses. Part I.—The Scottish Southern Uplands. By Francis J. Lewis, F.L.S. (With Six Plates),	699
XXIX.	Semi-regular Networks of the Plane in Absolute Geometry. By Duncan M. Y. Sommerville, M.A., B.Sc. (With Twelve Plates),.	725
XXX.	A Monograph on the general Morphology of the Myxinoid Fishes, based on a study of Myxine. Part I.—The Anatomy of the Skeleton. By Frank J. Cole, B.Sc. Oxon. (With Three Plates),.	749
XXXI.	The Life-History of Xenopus lævis, Daud. By Edward J. Bles, B.A., B.Sc., Assistant in Zoology at the University of Glasgow. (With Four Plates),	789
XXXII.	Calculation of the Periods and Nodes of Lochs Earn and Treig, from the Bathymetric Data of the Scottish Lake Survey. By Professor Chrystal and Ernest Maclagan-Wedderburn, M.A.	0.00
XXXIII.	(With Two Maps),	823
	By Professor J. Arthur Thomson, M.A., and Mr James Ritchie, M.A. (With Two Plates),	851
Appendiz	x—	
T	The Council of the Society,	865
A	Alphabetical List of the Ordinary Fellows,	867
	ist of Honorary Fellows,	886
L	ist of Ordinary and Honorary Fellows Elected during Session 1904-	000
	1905,	888

77 77 77 77 77 77 77 77 77 77 77 77 77				
$Fellows \ Deceased, 1904-05, .$	•	•	•	•
Laws of the Society,	•	•	•	•
The Keith, Makdougall-Brisbane, Neill, and	Gunnin	ng Vict	$oria$ J_{i}	$\it ibilee$
$Prizes, \qquad . \qquad . \qquad .$		•	•	•
Awards of the Keith, Makdougall-Brisbane,	and Neil	ll Prize	es from	1827
to 1904, and of the Gunning Victoria.			-	
1904,	•		•	•
Proceedings of the Statutory General Meetin	g, 1904,	•		
$Index, \dots \dots$	•	•		