BEOLOGY DEPARTMENT

BIRKBECK COLLEGE 3.7.4

GEOLOGICAL MAGAZINE;

Monthly Journal of Geology:

WITH WHICH IS INCORPORATED

"THE GEOLOGIST."

NOS. XLIII. TO LIV.

EDITED BY

HENRY WOODWARD, F.G.S., F.Z.S.

RONORARY MEMBER OF THE GROLOGICAL SOCIETIES OF GLASGOW AND NORWICH; CORRESPONDING MEMBER OF THE NATURAL HISTORY SOCIETY OF MONTREAL; AND OF THE LYCEUM OF NATURAL RISTORY, NEW YORK.

ASSISTED BY

PROFESSOR JOHN MORRIS, F.G.S., &c., &c.,

AND

ROBERT ETHERIDGE, F.R.S.E., F.G.S., &c.

VOL. V.

JANUARY-DECEMBER, 1868.

LONDON:

TRÜBNER & Co., 60, PATERNOSTER ROW. CH. DELEGRAVE ET CIE, 78, RUE DES ECOLES, PARIS. LEIPSIC: F. A. BROCKHAUS. TURIN & FLORENCE: H. LOESCHER. NEW YORK: LEYPOLDT & HOLT. 1868.

HERTFORD:
PRINTED BY STEPHEN AUSTIN.

LIST OF PLATES.

PLATES	PAGE
I. New Limuloid Crustacean from the Upper Silurian;	
Prosopon mammillatum, H. Woodward, Stonesfield.	1
II. New Trilobites, etc., from the Upper Cambrian Rocks	_
of North Wales	5
III. Amethyst-Quartz, with warped Faults in concretion.	12
	59
V. British Graptolites	64
VI. Cambrian Lower Beds, Railway Cutting south-west	
side of Llyn Padarn, Llanberis	
VII. Banded Cambrian Slates, Glyn Quarries, Llanberis.	
VIII. Actinoceras baccatum, H. Woodw., Woolhope Limestone	
IX. Fossil Pandanaceous Fruit	153
X. Section and Map of a Concrete Agate	156
XI. Saurosternon Bainii, Huxley; a new Fossil Reptile	
from South Africa	205
XII. Pristerodon McKayi, Huxley; a new Fossil Reptile	
from South Africa	205
XIII. Folded Agates and Mural Agates	208
XIV. Cretaceous and Liassic Crustacea	2 58
XV. XVI. Earliest forms of British Brachiopoda	
XVII. Lower Lias Crustacea	353
XVIII. XIX. New Species of Brachiopoda from the Lower Green-	
sand, at Upware	399
sand, at Upware	
land	441
XXI. Pedunculated and Sessile-eyed Crustacea	489
XXII. Skull of the Mammoth from Ilford (front view)	54 0
XXIII. Ditto ditto ditto (side view)	
LIST OF WOODCUTS.	
Brecciated Concretions 12, 13, 15, 17,	18
Diagram to show the variable height of the base of an escarpment	
above the sea-level	41
Section of the valleys of the Lea, the Roding, and the Thames	43
Section of the valley of the Ouse, near Buckingham	45
Fossil from Studland Bay; Kydia calycina, India; Calycopteris (Getonia)	
	74
floribunda, India	113

Constant of Consta	PAGE
Ground-plan of Quarry near Buddon Wood, Charnwood Forest	113
Swithland Old Pit, Charnwood Forest, etc	119
Diagram of the Igneous Rocks of Charnwood Forest	120
	122
	123
Diagram to illustrate the origin of slaty cleavage	149
Section of Albian or Gault at Copt Point, Folkestone	170
Plan exhibiting the localities of Natural Pits near Ripon	179
Leskia mirabilis, Echinosphærites aurantium, Sphæronites pomum	183
Anterior aspect of head and mandible of Dinichthys Herzeri.	185
Hills inside Estuary at the mouth of the Buffalo river, British Kaffraria	203
Order of Superposition of Deposits, Buffalo River, British Kaffraria	
Diagrams illustrating the origin of Faults 205, 206,	207
Banded and Brecciated Concretions 209, 210, 211,	919
75.4 A.T. 75. A.T. A.T. A.T. A.T. A.T. A.T. A.T. A.	214
A	215
Section illustrative of the general geological structure of the Duchy	263
	ດຂາ
of Nassau, Germany	
Section of Street at Theman on the Core	269
Section of Strata at Upware on the Cam	
Diagram showing the distortion of an old brick wall	-
	309
Diagrams of Coal-plants, Megaphyton, Palæopteris, Calamites, Lepido-	
dendron, Sigillaria	337
Section of New Red Marls, Mapperly Road, Nottingham	341
Sketch-map' of a portion of the district near Nottingham, showing the	
position of the Faults in the Red Marls of the Keuper and Bunter	342
Diagram-section of Columnar Basalt and White Chalk near Lisburn,	
Co. Antrim	346
Section at Roswell Hole, near Ely	34 8
Diagram to explain the approximate dip of Strata at Roswell Hole,	
near Ely	349
Sketch-section exposed in the railway-cutting near Crofthead, Ren-	
frewshire	394
Diagrammatic section across the Cowdon valley, near Crofthead	395
	402
Ground plan of Roswell Hill Clay-pit, Ely	
Section of north bank of railway-cutting near Crofthead, Renfrewshire	
Tooth of Climaxodus ovatus, sp. nov., Low Main Coal-shale, Northum-	
berland	496
Section at the base of cliff at the first point west of Lower Sher-	
ringham	
Cliff-section on the Norfolk coast, showing contorted Strata	550
Railway-cutting west of Wells, Norfolk	551
Diagram-section of side of Gravel-pit near Old, Northamptonshire.	569
Diagram-section of side of Graver-bit near Old, Morenamptonshire.	403

¹ Roughly copied from the Geological Survey Map. - W.W.

PREFACE.

In closing the Fifth Volume of the Geological Magazine, we cannot omit to express our sincere thanks to our numerous friends, especially to those who have furnished the Original Articles, which, as a matter of course, are the very foundation of this volume. We welcome some as new Geological contributors, but the chief names are of old and valued supporters who have from the outset given us their aid.

Our volume for 1868 contains articles by Messrs. T. P. Barkas; Thos. Belt, C.E., F.G.S.; E. Billings, F.G.S.; W. Carruthers, F.L.S., F.G.S.; Thos. Davidson, F.R.S., F.G.S.; D. C. Davies; T. Davies; W. Boyd Dawkins, M.A., F.R.S; C. E. De Rance; J. Evans, F.R.S., Sec. G.S.; R. Etheridge, F.R.S.E., F.G.S.; Miss Eyton; Rev. O. Fisher, M.A., F.G.S.; Messrs. David Forbes, F.R.S., F.G.S.; Archibald Geikie, F.R.S.L. & E.; James Geikie; J. R. Gregory; Prof. C. H. Hitchcock; T. McKenny Hughes, B.A., F.G.S.; Dr. T. Sterry Hunt, F.R.S.; Capt. F. W. Hutton, F.G.S.; Prof. T. H. Huxley, LL.D., F.R.S., President Geol. Soc.; Prof. T. Rupert Jones, F.G.S.; Messrs, J. Beete Jukes, M.A., F.R.S., &c.; G. H. Kinahad, F.R.G.S.I.; E. Ray Lankester, B.A.; H. Leonard, F.G.S.; J. Logan Lobley, F.G.S.; Dr. G. Lindström: Dr. C. Lütken; Messrs. D. Mackintosh, F.G.S.; G. Maw, F.L. and G.S.; C. J. A. Meyer; Prof. J. Morris, F.G.S.; Sir Roderick I. Murchison, Bart., F.R.S. &c.; Dr. H. A. Nicholson, M.B., F.G.S.; Messrs. S. R. Pattison, F.G.S.; C. W. Peach; John Ruskin, M.A., LL.D., F.G.S.; G. Poulett Scrope, F.R.S., F.G.S.; S. H. Scudder; H. G. Seeley, F.G.S.; S. Sharp, F.S.A., F.G.S.; Revs.W. S. Symonds. M.A., F.G.S.; J. S. Tute, M.A.; Messrs. J. F. Walker, B.A., F.G.S.; J. M. Wilson, M.A., F.G.S.; S. V. Wood, junr., F.G.S.; B. H. Woodward, &c.

Besides these, we are indebted for NOTICES and REVIEWS to many gentlemen whose names we have not authority to publish, but to whom we sincerely tender our thanks. viii PREFACE.

Nor have we failed to receive a goodly array of Letters, which, like the Original Articles, treat 'de omnibus rebus et quibusdam aliis' in Geology and Palæontology, and, as far as our space has permitted, we have given to each and all a place. We must, however, again beg our Correspondents to make their letters as concise as possible, so as to allow of the insertion of as much variety both of matter and opinion as can be; bearing in mind that a single letter by its length often shuts out several other communications equally deserving of a place.

In the matter of Typography and Illustrations, the Arrists, PRINTERS, and PUBLISHERS have done their very best; and if only more Subscribers will lend us their aid, we promise them a hundred-fold in return.

Lastly—If they have not done so already, Annual Subscribers are earnestly requested to send in their names and subscriptions to Messrs. Trübner & Co., 60, Paternoster Row, London, E.C.

The Geological Magazine can be obtained through all Booksellers in town or country; but if any difficulty or delay arises through this method of procuring it, the Publishers will always be happy to send it direct per post.

THE EDITOR.

All Communications for the Geological Magazine should be addressed to the Editor, 142, St. Paul's Road, Camden Square, N.W.

Books for Review, and Parcels from abroad, should be sent addressed to the Editor, at 60, Paternoster Row, E.C.

Form for Subscribers to fill up and send to their Booksellers.

To

Be pleased to add my name to the List as a Subscriber for one copy of Volume VI. of the Geological Magazine, to be published monthly by Messrs. Trübner & Co., the First Part of which appeared on January 1, 1869, price Eighteenpence each number.

Signature	 	
Address	 	