

THE  
GEOLOGICAL MAGAZINE.

VOL. LXXVI OF WHOLE SERIES.  
JANUARY—DECEMBER, 1939.

THE  
GEOLOGICAL MAGAZINE

OR  
Monthly Journal of Geology.

WITH WHICH IS INCORPORATED  
THE GEOLOGIST.

FOUNDED IN 1864 BY THE LATE DR. HENRY WOODWARD, F.R.S.

EDITED BY  
R. H. RASTALL, M.A., Sc.D.

AND  
O. M. B. BULMAN, A.R.C.Sc., Sc.D.

ASSISTED BY  
PROFESSOR W. S. BOULTON, D.Sc.  
PROFESSOR W. G. FEARNSIDES, M.A., F.R.S.  
SIR T. H. HOLLAND, K.C.S.I., D.Sc., F.R.S.  
PROFESSOR O. T. JONES, M.A., D.Sc., F.R.S.  
PROFESSOR C. E. TILLEY, Ph.D., F.R.S.  
PROFESSOR W. W. WATTS, Sc.D., LL.D., M.Sc., F.R.S.  
HENRY WOODS, M.A., F.R.S.  
SIR ARTHUR SMITH WOODWARD, LL.D., F.R.S.

VOL. LXXVI OF WHOLE SERIES.  
JANUARY--DECEMBER, 1939.

LONDON:  
DULAU & CO., LTD.,  
29 DOVER STREET, W.1.  
1939.

**HERTFORD**  
**STEPHEN AUSTIN AND SONS, LTD.**

## CONTENTS OF VOLUME LXXVI, 1939.

No. 895.	JANUARY.	PAGE
T. NEVILLE GEORGE. The Cefn Bryn Shales of Gower . . .		1
D. CARROLL. Movement of Sand by Wind . . . . .		6
F. S. WALLIS. New Blattoid Insects from the South Wales Coalfield (Plate I) . . . . .		23
A. HARKER. The Cambridge Collection of Rock-slices . . . . .		35
J. B. SCRIVENOR. Notes on the Geology of the Lizard. No. 4 : " The Devil's Frying Pan " . . . . .		37
S. I. TOMKIEFF. The Classification of Igneous Rocks . . . . .		41
No. 896.	FEBRUARY.	
C. J. STUBBLEFIELD. Distribution and Migration of Trilobites in the British Lower Palaeozoic Faunas . . . . .		49
F. WALKER. A Quartz-Diorite from Glenduckie Hill, Fife . . . . .		72
L. F. SPATH. Problems of Ammonite Nomenclature. No. 4 : The Vicissitudes of the Genus <i>Rhacophyllites</i> Zittel . . . . .		77
M. A. ARBER. The Nature and Significance of the Pedicle- foramen of <i>Leptaena</i> Dalman . . . . .		82
REVIEWS.—Quartz Family Minerals, 92 ; Field Determination of Rocks, 92 ; Die fossilen Reptilien, 93.		
CORRESPONDENCE.—W. B. Wright, 94.		
No. 897.	MARCH.	
J. B. SCRIVENOR. Notes on the Geology of the Lizard. No. 5 ; Porthallow and Neighbourhood . . . . .		97
R. H. RASTALL. On Rutile in the Dogger . . . . .		109
C. W. and E. V. WRIGHT. Upper Gault near Aylesbury, Bucks . . . . .		115
J. H. F. UMBGROVE. On Rhythms in the History of the Earth . . . . .		116
J. K. S. ST. JOSEPH. The Structure of <i>Lycophoria</i> Lahusen . . . . .		130
REPORTS AND PROCEEDINGS.—Geological Society, 136 ; Mineralogical Society, 137.		
REVIEWS.—Lexicon de Stratigraphie, Africa, 138 ; The Earth's Interior, 140 ; The Creation of Malaya, 141 ; Geologische Jahresberichte, 1, 141 ; The Cambridge Region, 142 ; Tafoni weathering, 142 ; Geology of Iran 143.		
CORRESPONDENCE.—A. S. Woodward, 143.		
ANNOUNCEMENT.—Dr. Alfred Harker, 144.		

No. 898.	APRIL.	PAGE
S. K. ROY, N. L. SHARMA, and G. C. CHATTOPADHYAY. The Mica-Pegmatites of Kodarma, India (Plates II, III)		145
H. G. SMITH. New Lamprophyres at Grève de Lecq, Jersey		165
O. T. JONES. The Consolidation of Muddy Sediments		170
A. H. TAITT and P. E. KENT. Note on an Examination of the Poxwell Anticline, Dorset		173
G. L. ELLES. Factors Controlling Graptolite Successions and Assemblages		181
L. F. SPATH. On Some Tithonian Ammonites from the Northern Range of Trinidad, B.W.I.		187
REVIEWS.—The Water Supply of London, 189; Geological Survey, F.M.S., 191.		
CORRESPONDENCE.—R. M. Brydone, 192.		

No. 899.	MAY.	
S. H. REYNOLDS. On a collection of Reptilian Bones from the Oolite of Stow-on-the-Wold, Gloucestershire		193
F. DEMANET. Filtering Appendices on the branchial arches of <i>Coelacanthus lepturus</i> Agassiz		215
J. A. BUTTERFIELD. Brookite in the Millstone Grit of Yorkshire		220
F. C. PHILLIPS. Micro-fabric of some members of the "Tarskavaig-Moine" Series		229

No. 900.	JUNE.	
M. MACGREGOR and G. WILSON. On Granitization and Associated Processes		193 (241)
H. G. BUSK. Notes on the Geology of the North-Eastern Extremity of the Northern Frontier Province, Kenya Colony		215 (263)
H. G. BUSK. On Certain Aspects of the Physiography of the Coast Ranges of Kenya Colony, near Mombasa		222 (270)
R. H. RASTALL and J. E. HEMINGWAY. Black Oolites in the Dogger of North-East Yorkshire (Plates IV, V)		225 (273)
H. PJETURSS. On the Pleistocene Rocks of Iceland and the Age of the Submarine Shelf		233 (281)
L. F. SPATH. Problems of Ammonite Nomenclature. No. 5: On <i>Acanthoplites jacobi</i> (Collet) and the <i>jacobi</i> Zone of the Folkestone Sands		236 (284)

REVIEWS.—Bulletin of the Geological Survey, 1, 239 (287); Garnets and their Role in Nature, 240 (288).

CORRESPONDENCE.—L. F. Spath, 240 (288).

Contents.

vii

No. 901.	JULY.	PAGE
J. S. LEE. Continental Drift . . . . .		289
L. F. SPATH. Problems of Ammonite Nomenclature. No. 6 : The Genus <i>Pachydiscus</i> Zittel . . . . .		293
F. SMITHSON. Statistical Methods in Sedimentary Petrology. Pt. I : Percentage Composition of Assemblages and their Graphical Study . . . . .		297
F. R. C. REED. A Miocene Limestone from Cyprus . . . . .		310
S. W. TROMP. A New Method for the Discovery of Flat- dipping Structures ( $1^\circ$ and less) in Irregular Lenticular Sediments . . . . .		311
W. F. WHITTARD and F. G. HUDSON. An Interpretation of certain Reversed Faults at Chipping Sodbury, Gloucester- shire . . . . .		314
W. ANDERSON. Possible Late-Glacial Sea-levels at 190 and 140 feet O.D. in the British Isles . . . . .		317
R. H. RASTALL. Sedimentary Formations of Abnormal Thickness . . . . .		322
C. E. TILLEY. Kyanite-Gedrite Parageneses . . . . .		326
REVIEWS.—Geology of India, 331 ; Gypsum and Anhydrite, 334 ; Introduc- tion to Crystal Chemistry, 334.		
CORRESPONDENCE.—L. Hawkes, 335.		
ANNOUNCEMENT.—Albert Medal Award, 336.		

No. 902.	AUGUST.	
D. F. W. BADEN-POWELL. Further Collections of Quaternary Fossils from Spitsbergen . . . . .		337
F. SMITHSON. Statistical Methods in Sedimentary Petrology. Pt. II : Grain-size Measurements and their Graphical Study . . . . .		348
J. SHIRLEY. Note on the Occurrence of <i>Dayia navicula</i> (J. de C. Sowerby) in the Lower Ludlow Rocks of Shropshire . . . . .		360
R. H. RASTALL and J. E. HEMINGWAY. The Blea Wyke Beds and the Dogger at Peak, Yorkshire . . . . .		362
J. L. BEGG. Some new Species of Proetidae and Otarionidae from the Ashgillian of Girvan (Plate VI) . . . . .		372
REVIEW.—Geology and Allied Sciences, 383.		
CORRESPONDENCE.—L. F. Spath, 383.		
ANNOUNCEMENT.—International Geological Congress, 384.		

No. 903.	SEPTEMBER.	
E. M. LIND HENDRIKS. The Start-Dodman-Lizard Boundary- Zone in Relation to the Alpine Structure of Cornwall . . . . .		385
C. A. COTTON. The Landscape Cycle under Semi-Arid Conditions . . . . .		402

	PAGE
F. M. TROTTER. Reddened Carboniferous Beds in the Carlisle Basin and Edenside . . . . .	408
F. SMITHSON. Statistical Methods in Sedimentary Petrology. Pt. III: Cartographic Methods . . . . .	417
G. D. HOBSON. A Simple Device for the Construction of the Trace of the Axial "Plane" of a Competent Fold . . . . .	427
ANNOUNCEMENT.—Mining Industry Act (1926), 432.	

## No. 904.

## OCTOBER.

Editorial: Notice to Subscribers and Readers . . . . .	433
O. M. B. BULMAN. Muscle Systems of Some Inarticulate Brachiopods . . . . .	434
J. H. F. UMBGROVE. The Relation between Magmatic Cycles and Orogenic Epochs . . . . .	444
L. F. SPATH. Problems of Ammonite Nomenclature. No. 7: The Genera <i>Paraphylloceras</i> and <i>Neophylloceras</i> Shimizu . . . . .	451
W. J. ARKELL. U-shaped Burrows in the Corallian Beds of Dorset (Plates VII, VIII) . . . . .	455
J. A. MOY-THOMAS and E. I. WHITE. On the Palatoquadrate and Hyomandibula of <i>Pleuracanthus sessilis</i> Jordan . . . . .	459
REVIEWS.—Handbuch der Paläozoologie, 6: Gastropoda, 463; Primary Banding in Norite and Gabbro, 464.	

## No. 905.

## NOVEMBER.

L. L. FERMOR. On Coal Veins in Malaya (Plates IX, X). . . . .	465
L. L. FERMOR. Varved Sediments in Malaya (Plate XI) . . . . .	473
N. MURRAY. The Microflora of the Upper and Lower Estuarine Series of the East Midlands . . . . .	478
W. ANDERSON. Quaternary Sea-levels in the Northern Hemisphere . . . . .	489
REVIEWS.—A Source Book in Geology, 494; Nature and Origin of Coal Seams, 495; Geology and Engineering, 495; Soil Formation, 496.	

## No. 906.

## DECEMBER.

A. G. BRIGHTON. The Chalk Echinoid <i>Galeola</i> in England . . . . .	497
H. I. DREVER. A Petrological Study of the Limestones in the Moine Series of Ardgour, Argyllshire . . . . .	501

REVIEW.—Geology of South Africa, 519.

CORRESPONDENCE.—E. Greenly, 520.

ANNOUNCEMENT.—International Geological Congress, 520.

INDEX.—521.