

GEOLOGICAL MAGAZINE

Edited by

O. M. B. BULMAN and S. R. NOCKOLDS

assisted by

PROFESSOR W. S. BOULTON

PROFESSOR O. T. JONES

PROFESSOR W. G. FEARNSIDES

DR. W. J. PUGH

PROFESSOR LEONARD HAWKES

PROFESSOR C. E. TILLEY

CONTENTS

	PAGE
WILSON, H. H. The Cove Marine Bands in East Lothian and their Relation to the Ironstone Shale and Limestone of Redesdale, Northumberland	305
WRIGHT, J. Crinoids from Thornton Burn, East Lothian	320
PITCHER, W. S., and READ, H. H. An Appinitic Intrusion-Breccia at Kilkenny, Maas, Co. Donegal	328
WALKER, F. Mugearites and Oligoclase-Basalts	337
FORD, T. D. New Evidence on the Correlation of the Lower Carboniferous Reefs at Castleton, North Derbyshire	346
JOYSEY, K. A. Fossil Lineages and Environmental Change	357
JOHNSON, G. A. L. A glacial erratic boulder of Shap Granite in South Northumberland	361
STRACHAN, I. On the Development of <i>Diversograptus</i> Manck	365
BAILEY, E. B. So-called Amygdaloidal Gabbro, Skye	369
REYNOLDS, D. L. So-called Amygdaloidal Gabbro, Skye : Comments on a paper by E. B. Bailey	376

REVIEWS

pp. 380-2

CORRESPONDENCE

Pleistocene Sections at Barrington	382
Malvern Tectonics	384

STEPHEN AUSTIN & SONS, LTD.
1 FORE STREET, HERTFORD, HERTS

SUBSCRIPTION 32/6 PER ANNUM

GEOLOGICAL MAGAZINE

founded in 1864

by the late Dr. H. Woodward, F.R.S., with which

is incorporated

THE GEOLOGIST

(founded 1858)

Published every two months, price 32/6 per annum
(single numbers, 7/6).

Subscriptions for 1952, inquiries relating to back stock, advertising, etc., should be sent to Stephen Austin & Sons, Ltd., Fore Street, Hertford, Herts.

Instructions to Contributors.

Articles submitted for publication in the *Geological Magazine* should be addressed to the Editors at the *Sedgwick Museum, Cambridge*, not to the Publishers.

Manuscripts should be typewritten, double-spaced, and preferably with a wide margin, and should be carefully revised; they should be as concise as possible, and in no case should an article exceed 10,000 words. MS. must be accompanied by a short abstract, 50–100 words. References should not be given in footnotes, but arranged in alphabetic order of author's names at the end of the article; the author's name should be followed by date of publication, and the title of each paper should be given in addition to volume and page numbers of the Journal, thus:—

LAPWORTH, C. 1878. The Moffat Series. *Quart. Journ. Geol. Soc.*, xxxiv, 240–343.

References should be cited in the text by author's name and date, with page reference if necessary, in brackets:—(Lapworth, 1878, p. 339).

Illustrations should be so drawn as to allow reduction to a maximum size of $6\frac{3}{4} \times 3\frac{3}{4}$ inches (the type-area of the Magazine) and originals must not exceed 40×22 inches. Map lettering should be such as to be clearly legible after reduction (equivalent to 5-point as a *minimum* on reduction), while lettering on text-figures should in general be left in pencil for printing.

Authors will receive 25 reprints free of cost.

THE
GEOLOGICAL MAGAZINE

VOL. LXXXIX OF WHOLE SERIES

JANUARY–DECEMBER, 1952

GEOLOGICAL MAGAZINE

with which is incorporated

THE GEOLOGIST

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

Edited by

O. M. B. BULMAN, Ph.D., A.R.C.Sc., F.R.S.

and

S. R. NOCKOLDS, Ph.D.

assisted by

PROFESSOR W. S. BOULTON, D.Sc.
PROFESSOR W. G. FEARNSIDES, M.A., F.R.S.
PROFESSOR LEONARD HAWKES, D.Sc., F.R.S.
PROFESSOR O. T. JONES, M.A., D.Sc., F.R.S.
W. J. PUGH, O.B.E., D.Sc., F.R.S.
PROFESSOR C. E. TILLEY, Ph.D., F.R.S.

Vol. LXXXIX of Whole Series

JANUARY—DECEMBER, 1952

STEPHEN AUSTIN & SONS, LTD

1 FORE STREET, HERTFORD, HERTS

HERTFORD
STEPHEN AUSTIN AND SONS, LTD.

CONTENTS OF VOLUME LXXXIX, 1952

No. 1	JANUARY—FEBRUARY	PAGE
G. WILSON. Ptygmatic Structures and their Formation		1
K. W. BOND. Cyclic Sedimentation of the Rough Rock (Millstone Grit) as illustrated by a section near Eakring, Nottinghamshire		22
G. A. JOPLIN. The Granitization Process and its Limitations as Exemplified in Certain Parts of New South Wales		25
L. L. FERMOR. A Note on Chromite-Marbles		39
W. T. HARRY. An Unusual Appinitic Sill Near Killin, Perthshire		41
P. QUENSEL. The Paragenesis of the Varuträsk Pegmatite		49
E. LEHMANN. The Significance of the Hydrothermal Stage in the Formation of Igneous Rocks		61
CORRESPONDENCE.—The name "Tholeiite", 69; Age of the Portsalon Conglomerate, 70.		
REVIEWS.—Geologia Applicata all' Ingegneria, 71; International Geological Congress, 71; Das Polarisations-mikroskop, 72; Spectrochemical Analysis, 72.		
No. 2	MARCH—APRIL	
A. F. WILSON. Metamorphism of Granite Rocks by Olivine Dolerite in Central Australia		73
J. A. MABBUTT. A Study of Granite Relief from South-West Africa		87
M. S. AMIN. Metamorphic Differentiation of Talc-Magnesite-Chlorite Rocks in Shetland		97
G. P. BLACK. The Age Relationship of the Granophyre and Basalt of Orval, Isle of Rhum		106
E. M. ANDERSON. Lineation and its relation to sub-crustal Convection Currents		113
G. G. LEMON. The Moian Inlier of Rosses Point, near Sligo, Eire		124
Y. K. BENTOR. Magmatic Intrusions and Lava-sheets in the Raman area of the Nagev (Southern Israel)		129
G. WILSON. A Quartz Vein System in the Moine Series near Melness, A'Mhoine, North Sutherland, and its Tectonic Significance		141
Sir L. L. FERMOR. On a New Chrome-Garnet		145
W. S. MCKERROW. Notes on the Species and Subspecies in Palaeontology		148
CORRESPONDENCE.—Zoological Nomenclature, 151; Accuracy in Geological Localities, 152.		
No. 3	MAY—JUNE	
T. M. THOMAS. Littoral Trias in the Vale of Glamorgan		153
B. W. SPARKS. Pleistocene Sections at Barrington, Cambridgeshire		163
B. E. BALME. Spore Specimens from British Upper Carboniferous Coals		175
F. G. H. BLYTH. Malvern Tectonics—A Contribution		185
W. W. BLACK. Supposed Tufa Bands in Carboniferous Reef Limestones		195
D. PARKINSON. Allometric Growth in <i>Dielasma hastata</i> from Treak Cliff, Derbyshire		201
C. FRIEDLAENDER. Structural Imperfections in Alpine Quartz Crystals		217
C. A. COTTON. Cyclic Resection of Headlands by Marine Erosion		221

	PAGE
CORRESPONDENCE.—Foraminiferal Zones in the Tertiary of Australia 225, 228; Gold Coast University College, 230; Species and Subspecies, 230; Accuracy in Geological Localities, 231.	
LIST OF PUBLICATIONS RECEIVED.—231.	
ANNOUNCEMENTS.—International Geological Congress, Algiers, 1952, 162; Empire Mining and Metallurgical Congress, 220.	
No. 4 JULY—AUGUST	
DORIS L. REYNOLDS. The Difference in Optics Between Volcanic and Plutonic Plagioclases, and its Bearing on the Granite Problem . . .	233
J. T. TEMPLE. The Ontogeny of the Trilobite <i>Dalmanitina olini</i> . . .	251
D. FLINN. A Tectonic Analysis of the Muness Phyllite Block of Unst and Uyea, Shetland	263
W. G. HARDIE. The Lochaber Series South of Loch Leven, Argyllshire	273
C. E. WILLIAMS. Carbonatite Structure: Tororo Hills, Eastern Uganda	286
F. A. HENSON. Volcanic Ash from the Hekla Eruption of 1947 . . .	293
REVIEWS.—Internal Constitution of the Earth, 298; Geology of the Appleby District, 298; The Tectonics of Middle North America, 299; Sedimentary Petrography, 300; Coast Erosion and Pro- tection: Studies in Causes and Remedies, 300; Tables for Microscopic Identification of Ore Minerals, 301.	
CORRESPONDENCE.—The Granitization Process and its Limitations, 301; Supposed Tufa Bands in Carboniferous Reef Limestone, 302; Fossiliferous Strata at Kapp Scania, Daudmannsøyra, Vest Spitsbergen, 303; The Age of the Malvern Folding, 304.	
No. 5 SEPTEMBER—OCTOBER	
H. H. WILSON. The Cove Marine Bands in East Lothian and their Relation to the Ironstone Shale and Limestone of Redesdale, Northumberland	305
J. WRIGHT. Crinoids from Thornton Burn, East Lothian	320
W. S. PITCHER, and H. H. READ. An Appinitic Intrusion-Breccia at Kilkenney, Maas, Co. Donegal	328
F. WALKER. Mugearites and Oligoclase-Basalts	337
T. D. FORD. New Evidence on the Correlation of the Lower Car- boniferous Reefs at Castleton, North Derbyshire.	346
K. A. JOYSEY. Fossil Lineages and Environmental Change	357
G. A. L. JOHNSON. A glacial erratic boulder of Shap Granite in South Northumberland	361
I. STRACHAN. On the Development of <i>Diversograptus</i> Manck	365
E. B. BAILEY. So-called Amygdaloidal Gabbro, Skye	369
D. L. REYNOLDS. So-called Amygdaloidal Gabbro, Skye: Comments on a paper by E. B. Bailey	376
REVIEWS.—Selected Exercises upon Geological Maps, 380; The Formation of Mineral Deposits, 380; Vergleichende Bauge- schichte de Gebirge, 380; Die Baugeschichte der Alpen, 380; Plane Table Mapping, 381; The Elements of Field Geology, 382.	
CORRESPONDENCE.—Pleistocene Sections at Barrington, 382; Malvern Tectonics, 384.	
No. 6 NOVEMBER—DECEMBER	
A. N. THOMAS. On the Origins of the Kumaon Lakes in the Himalayas	385
R. J. ADIE. The Position of the Falkland Islands in a Reconstruction of Gondwanaland	401

Contents

vii

	PAGE
W. T. HARRY. Basic hornfels at a gabbro contact near Carlingford, Eire	411
K. W. BARR. Limestone Blocks in the Lower Cretaceous Cucho Formation of the Central Range, Trinidad, B.W.I.	417
V. A. EYLES and A. G. MACGREGOR. The Great Glen Crush-Belt	426
CORRESPONDENCE.—Foraminiferal Zones in the Tertiary of Australia, 437 ; Lineation in the Shetland Islands, 438 ; Mugarites and Oligoclase-Basalts, 439 ; Cove Marine Bands, 440 ; Malvern Tectonics, 440.	
REVIEWS.—A Palaeogeographical Atlas, 441 ; Grundlagen der Biostratonomie, 442 ; Radiocarbon Dating, 442.	
LIST OF PUBLICATIONS RECEIVED.—443.	
INDEX.—445.	