

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

PROFESSOR W. J. PUGH

PROFESSOR LEONARD HAWKES

PROFESSOR C. E. TILLEY

CONTENTS

	PAGE
AUDEN, J. B. Erosional Patterns and Fracture Zones in Peninsular India	89
CUMMINS, W. A. An Arenig Volcanic Series near Charlestown, Co. Mayo	102
BAILEY, E. B. Contact of Tertiary Lavas with Torridonian near Broadford, Skye	105
LEEDAL, G. P., and WALKER, G. P. L. Tear Faults in the Barnesmore area, Donegal	116
CLARK, R. H. A Study of Calcite Twinning in the Strathavon Marble, Banffshire	121
HARKER, R. I. The Occurrence of Orthoclase and Microcline in the Granitic Gneisses of the Carn Chuinneag-Inchbae Complex, E. Ross-shire	129
SADASHIVAIAH, M. S. The Form of the Eastern End of the Inch Igneous Mass, Aberdeenshire	137
SANDERS, L. D. The Status of Sillimanite as an Index of Metamorphic Grade in the Kenya Basement System	144
HODSON, F. The Carboniferous Rocks of Foynes Island, County Limerick	153
GILMOUR, P. C., and McINTYRE, D. B. The Geometry of the Ben Lui Fold (S.W. Highlands)	161
WRIGHT, J. <i>Idosocrinus</i> gen. nov. and other Crinoids from Thornton Burn, East Lothian	167
MYERS, J. On the Occurrence of <i>Anthraconauta tenuis</i> (Davies and Trueman) in North Staffs	171

CORRESPONDENCE

Lugeon's Unpublished Interpretation of the Strath Oykell Mullions	174
Rules of Nomenclature	174
Comments on the Caribbean Oligocene	175

PUBLICATIONS RECEIVED

p. 176

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

SUBSCRIPTION 40/- PER ANNUM

GEOLOGY DEPARTMENT

BIRKBECK COLLEGE, W.O.F.

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 40/- per annum
(single numbers, 8/6).

Subscriptions for 1954, inquiries relating to back stock, advertising, etc., should be sent to Stephen Austin & Sons, Ltd., Fore Street, Hertford, Herts.

The Editors are directed to make it known to the public that the authors alone are responsible for the facts and opinions contained in their respective papers and for the correctness of their references.

UNIVERSITY VACANCIES IN GEOLOGY

The University of Alberta invites applications for the post of Lecturer in Geology; salary range \$3,000–\$3,900, dependent on qualifications and experience (plus cost of living allowance, currently about \$300); appointment to be effective 1st September, 1954. Also a temporary appointment of Lecturer in Geology, from 1st September, 1954, to 30th April, 1955; salary \$400.00 a month. Academic requirements for both appointments—doctorate degree or equivalent standing.

Applications, giving age, nationality, and other personal information, particulars of academic and other qualifications and experience, names and addresses of references, and a recent photograph, should be submitted before 1st May, 1954, to the Dean, Faculty of Arts and Science, University of Alberta, Edmonton, Alberta.

THE
GEOLOGICAL MAGAZINE

VOL. XCI OF WHOLE SERIES

JANUARY-DECEMBER, 1954

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. 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.
PROFESSOR W. J. PUGH, O.B.E., D.Sc., F.R.S.
PROFESSOR C. E. TILLEY, Ph.D., F.R.S.

Vol. XCI of Whole Series

JANUARY—DECEMBER, 1954

49658

STEPHEN AUSTIN & SONS, LTD
CAXTON HILL, WARE ROAD, HERTFORD, HERTS

HERTFORD
STEPHEN AUSTIN AND SONS, LTD.

CONTENTS OF VOLUME XCI, 1954

No. 1	JANUARY-FEBRUARY	PAGE
T. C. PHEMISTER and D. H. WILLIAMSON. "Flattening" in Dalradian Quartz-Schist north of Stonehaven, Kincardineshire		1
A. KINGSLEY WELLS. Mugearites and Oligoclase-basalts		14
R. J. MURRAY. The Clinopyroxenes of the Garbh Eilean Sill, Shiant Isles		17
G. M. BENNISON. A New Species of <i>Carbonicola</i> from near the Base of the Namurian in Ayrshire		32
K. A. JOYSEY. The Structure of the Plastron of the Echinoid <i>Somaliaster</i> Hawkins		45
P. GILMOUR and MAX F. CARMAN. Petrofabric Analyses of the Loch Tay Limestone from Strachur, Argyll		49
O. F. TUTTLE and M. L. KEITH. The Granite Problem: Evidence from the Quartz and Feldspar of a Tertiary Granite		61
E. B. BAILEY. Relations of Torridonian to Durness Limestone in the Broadford-Strollamus district of Skye		73
W. T. HARRY. The Clinopyroxene-hornblende Equilibrium in Thermal Metamorphism: Some Data from Carlingford, Eire		79
CORRESPONDENCE.—"Hutton's Unconformity", 85.		
REVIEWS.—Geologie der Schweizer Alpen, 86; Geology of Australian Ore Deposits, 87.		
PUBLICATIONS RECEIVED.—88.		

No. 2	MARCH-APRIL	PAGE
J. B. AUDEN. Erosional Patterns and Fracture Zones in Peninsular India		89
W. A. CUMMINS. An Arenig Volcanic Series near Charlestown, Co. Mayo		102
E. B. BAILEY. Contact of Tertiary Lavas with Torridonian near Broadford, Skye		105
G. P. LEEDAL and G. P. L. WALKER. Tear Faults in the Barnesmore area, Donegal		116
R. H. CLARK. A Study of Calcite Twinning in the Strathavon Marble, Banffshire		121
R. I. HARKER. The Occurrence of Orthoclase and Microcline in the Granitic Gneisses of the Carn Chuinneag-Inchbae Complex, E. Ross-shire		129
M. S. SADASHIVAIAH. The Form of the Eastern End of the Insch Igneous Mass, Aberdeenshire		137
L. D. SANDERS. The Status of Sillimanite as an Index of Metamorphic Grade in the Kenya Basement System		144
F. HODSON. The Carboniferous Rocks of Foynes Island, County Limerick		153
P. C. GILMOUR and D. B. MCINTYRE. The Geometry of the Ben Lui Fold (S.W. Highlands)		161
J. WRIGHT. <i>Idosocrinus</i> gen. nov. and other Crinoids from Thornton Burn, East Lothian		167
J. MYERS. On the Occurrence of <i>Anthraconauta tenuis</i> (Davies and Trueman) in North Staffordshire		171
CORRESPONDENCE.—Lugeon's Unpublished Interpretation of the Strath Oykell Mullions, 174; Rules of Nomenclature, 174; Comments on the Caribbean Oligocene, 175.		
PUBLICATIONS RECEIVED.—176.		

F. SMITHSON and G. BROWN. The Petrography of Dickitic Sandstones in North Wales and Northern England	177
G. BOND. Lamellibranchia and Plants from the Lower Karroo Beds of Northern Rhodesia	189
C. T. TRECHMANN. Thrusting and other movements in the Durham Permian	193
W. PULFREY. Alkaline Syenites at Ruri, South Nyanza, Kenya	209
T. M. THOMAS. Solution Subsidence Outliers of Millstone Grit on the Carboniferous Limestone of the North Crop of the South Wales Coalfield	220
J. D. LAWSON. The Silurian Succession at Gorsley (Herefordshire)	227
X E. S. W. SIMPSON. On the Graphical Representation of Differentiation Trends in Igneous Rocks.	238
T. U. JOHN and K. L. PAULO. A Note on the Occurrence of Columbite in the Younger Granites of the Jos Plateau, Nigeria	245
J. M. HANCOCK. A New Ampthill Clay Fauna from Knapwell, Cambridgeshire	249
P. M. KIER. A New <i>Palaeochinus</i> from Alberta	252
CORRESPONDENCE.—The Strollamus Area of Skye, 255.	

G. P. BLACK. The Acid Rocks of Western Rhum	257
K. F. G. HOSKING. The Pegmatites of Trolvis Quarry, Carnmenellis, Cornwall	273
M. S. SADASHIVAIAH. The Granite-Diorite Complex of the Insch Igneous Mass, Aberdeenshire	286
M. K. WELLS. The Structure of the Granophyric Quartz-Dolerite Intrusion of Centre 2, Ardnamurchan, and the Problem of Net-Veining	293
W. S. PITCHER, D. J. SHEARMAN, and D. C. PUGH. The Loess of Pegwell Bay, Kent, and its Associated Frost Soils	308
J. T. TEMPLE. The Hypostome of <i>Encrinurus variolaris</i> and its Relation to the Cephalon	315
R. N. COPE. Cyrtograptids and Retiolitids from County Tipperary	319
CORRESPONDENCE.—Rules of Nomenclature, 325; The Caribbean "Oligocene", 326.	
REVIEWS.—Mountain Building, 327; The Coalfields of Great Britain, 331; Geology and Scenery in Britain, 333; Minerals for the Chemical and Allied Industries, 334; Clay Mineralogy, 335; The Soils of Europe, 336.	

X J. B. AUDEN. Drainage and Fracture Patterns in North-West Scotland	337
X J. HOSPERS. Magnetic Correlation in Volcanic Districts	352
P. K. SUTHERLAND. New Genera of Carboniferous Tetracorals from Western Canada	361
G. F. S. HILLS. The Distribution of Radioactivity with Depth in the Continents	372
M. H. P. BOTT. Interpretation of the Gravity Field of the Eastern Alps	377
T. BARNARD. <i>Hantkenina alabamensis</i> Cushman and Some Related Forms	384
J. SUTTON and J. WATSON. Ice-Borne Boulders in the Macduff Group of the Dalradian of Banffshire	391
M. S. AMIN. Notes on the Ultrabasic Body of Unst, Shetland Islands	399

CORRESPONDENCE.—On the Occurrence of Linnaeite in the Coal Measures of South Wales, 407; Angle Between the Principal Horizontal Stress and Transcurrent Faults, 407; Minerals for the Chemical and Allied Industries, 408; Proposed Neotype for *Pleurotomaria anglica* (J. Sowerby), 409; Rules of Nomenclature, 410; The Miocene/Oligocene Boundary in the Caribbean Region, 410.
 REVIEWS.—Geochemistry, 415; Petrography, 416.

No. 6

NOVEMBER–DECEMBER

D. L. REYNOLDS and A. HOLMES. The Superposition of Caledonoid Folds on an Older Fold-System in the Dalradians of Malin Head, Co. Donegal	417
R. I. HARKER. Further Data on the Petrology of the Pelitic Hornfelses of the Carn Chuinneag–Inchbae Region, Ross-shire, with Special Reference to the Status of Almandine	445
G. P. L. WALKER and J. V. ROSS. A Xenolithic Monchiquite Dyke	463
R. L. OLIVER. Welded Tuffs in the Borrowdale Volcanic Series, English Lake District, with a Note on Similar Rocks in Wales	473
A. R. GINDY. The Plutonic History of the Aswan Area, Egypt	484
P. ALLEN. Geology and Geography of the London–North Sea Uplands in Wealden Times	498
I. STRACHAN. The Structure and Development of <i>Peiragraptus fallax</i> , gen. et sp. nov. A new Graptolite from the Ordovician of Canada	509
C. W. DROOGER. The Oligocene-Miocene Boundary on both sides of the Atlantic	514
CORRESPONDENCE.—The Usk Monchiquite—A “Pipe Intrusion”, 519; The Great Glen Fault, Co. Donegal, 519.	
REVIEWS.—Oil in the Middle East, 520; Albert Heim. Leben und Forschung, 520.	
PUBLICATIONS RECEIVED.—522.	
INDEX.—525.	