

This fossil therefore cannot be called either *Avicula filata* or *Ostrea vesiculosa*, for in the former the generic name is incorrect, and in the latter the specific name already belongs to an entirely different species from Warminster. The obvious course is to call it *Ostrea filata*.

IV. THE 'LOWER HOLASTER ZONE.'

A brief comparison of the values of the two Holasters for zonal purposes may be made as follows:—

Holaster subglobosus.

- (1) Does not often reach the top of its zone.
- (2) In the type locality it only reaches half way.
- (3) Is sometimes entirely absent from the zone.
- (4) Is generally abundant in the zone below.

Holaster trecensis.

- (1) Occurs up to the summit of the zone.
- (2) Is rarely absent, but in Cambridgeshire does not occur in the lower half of the zone of *H. subglobosus*.
- (3) Is very rarely found associated with *A. varians*.

Thus neither of these fossils is really fitted for zonal use, and of the two, *H. subglobosus* is the least suitable. But a fairly satisfactory zone might be defined as the 'Lower Holaster Zone' by using the two Holasters in partnership; for one or other of them is nearly always present in every part of the Chalk which occurs between the zone of *A. varians* and *B. plena* throughout Britain.

The following arrangement of the Chalk of Cambridgeshire is therefore recommended:—

<i>Micraster</i> zones	...	...	}	Upper Chalk and Chalk Rock and
<i>Holaster planus</i> zone	...	...		<i>Holaster planus</i> beds.
<i>Terebratulina lata</i> zone	...	...	}	Middle Chalk, Melbourn Rock, and Belemnite Marls.
<i>R. Cuvieri</i> zone	...	...
<i>Inoceramus labiatus</i> zone	...	...
<i>B. plena</i> zone	...	...
Two Holasters Zone	...	...	}	Chalk with <i>H. trecensis</i> .
				Chalk with <i>H. subglobosus</i> .
<i>A. varians</i> zone	...	...	}	Burwell Rock.
				Chalk Marl.

NOTICES OF MEMOIRS, ETC.

I.—BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.
SEVENTY-SIXTH ANNUAL GENERAL MEETING, HELD AT YORK,
AUGUST 1ST TO 8TH, 1906.

President: Professor E. RAY LANKESTER, M.A., LL.D., D.Sc., F.R.S., F.L.S.,
Director of the Natural History Departments of the British Museum.

LIST OF PAPERS READ IN SECTION C, GEOLOGY.

Address by the President (G. W. Lamplugh, F.R.S.).

Professor P. F. Kendall.—On the Geology of the Country round
York.

- J. W. Stather.*—Report of the Committee on Drift Deposits at Kirmington, etc.
- W. G. Fearnside.*—On the Lower Palæozoic Series at Pomeroy.
- H. Culpin & G. Grace.*—Recent Exposures of Glacial Drift at Doncaster and Tickhill.
- E. Greenly.*—Report of the Committee on the Crystalline Rocks of Anglesey.
- H. Brodrick.*—On Faults as a predisposing cause for the existence of Pot-holes on Ingleborough.
- C. G. Dunford.*—Notes on the Speeton Ammonites.
- J. Parkinson.*—The Post-Cretaceous Stratigraphy of Southern Nigeria.
- Professor T. W. Edgeworth David, F.R.S.*—Occurrence of the Diamond in the Matrix near Inverell, New South Wales.
- Dr. F. H. Hatch.*—On the ‘Cullinan’ Diamond.
- T. H. Holland, F.R.S.*—On a peculiar variety of Sodalite from Rajputana.
- J. Lomas, Dr. A. Smith Woodward, F.R.S., H. C. Beasley.*—Report of the Committee on the Fauna and Flora of the Trias.
- A. Wilmore.*—A contribution to our knowledge of the Limestone Knolls of Craven.
- Professor E. J. Garwood.*—On the Faunal Divisions of the Carboniferous Rocks of Westmoreland.
- Dr. Wheelton Hind.*—Report of the Committee on Life-Zones in the British Carboniferous Rocks.
- Dr. A. Vaughan.*—Report of the Committee on the Faunal Succession in the Carboniferous Limestone of the South-West of England.
- Dr. Henry Woodward, F.R.S.*—Arthropods from the Coal-measures.
- A. C. Seward, F.R.S.*—The Jurassic Flora of Yorkshire.
- A. C. Seward, F.R.S.*—Report of the Committee on the Fossil Flora of the Transvaal.
- Professor G. A. J. Cole.*—The Teaching of Geology to Agricultural Scholars.
- Dr. F. A. Bather.*—Notes on the “Index Animalium.”
- F. W. Harmer.*—The Glacial Deposits of the East of England.
- F. W. Harmer.*—‘Lake Oxford’ and the Goring Gap.
- M. B. Cotsworth.*—On the Continuous Glacial Period.
- Professor J. Milne, F.R.S.*—Certain Earthquake-relationships.
- Discussion on the Origin of the Trias, opened by Professor T. G. Bonney, F.R.S., and J. Lomas.
- Professor T. W. Edgeworth David, F.R.S.*—Notes on the Coal-measures of New South Wales.
- Professor J. W. Gregory, F.R.S.*—The Problems of the Palæozoic Glaciations of Australia and South Africa.
- Professor E. Hull, F.R.S.*—On an Artesian Boring for the Water-supply of the City of Lincoln from the New Red Sandstone.
- Professor T. W. Edgeworth David, F.R.S.*—Further Note on the Occurrence of Diamond in New South Wales.
- Professor J. W. Gregory, F.R.S.*—Report of the Committee on the Correlation and Age of South African Strata.

Professor W. W. Watts, F.R.S.—Report of the Committee on Geological Photographs.

Dr. H. Johnston-Lavis.—Recent Observations at Vesuvius.

E. D. Oldham.—A Criterion of the Glacial Erosion of Lake-basins.

Rev. W. Lower Carter.—Notes on the Glaciation of the Usk and Wye Valleys.

Professor S. H. Reynolds.—A Silurian Inlier in the Eastern Mendips.

Professor P. F. Kendall.—Report of the Committee on the Erratic Blocks of the British Isles.

T. Sheppard.—On a Section of a Post-Glacial Deposit at Hornsea.

W. H. Crofts & Professor P. F. Kendall.—The Plain of Marine Denudation beneath the Drift of Holderness.

Professor S. H. Reynolds.—Igneous Rocks of the district south-west of Dolgelly.

Professor S. H. Reynolds.—A Picrite from the Eastern Mendips.

J. Lomas.—On the form of Carbonate of Lime in Pearls and the Pearl Oyster.

Titles of Papers read in other Sections bearing upon Geology :—

SECTION A.—MATHEMATICAL AND PHYSICAL SCIENCE.

Address by the President (Principal E. H. Griffiths, Sc.D., F.R.S.).
Reports of Committees.

Major E. H. Hills, C.M.G., & Professor J. Larmor, Sec. R.S.—The Irregular Motions of the Earth's Pole: a preliminary graphical Analysis of their causes.

The Hon. R. J. Strutt, F.R.S., opened a discussion on Radio-activity and the Internal Structure of the Earth.

SECTION B.—CHEMISTRY.

G. Beilby.—The Crystallisation of Gold in the Solid State.

T. Jamieson, F.I.C.—Utilisation of Nitrogen in Air by Plants.

SECTION D.—ZOOLOGY.

Address by the President (J. J. Lister, M.A., F.R.I.).—The Life-history of the Foraminifera.

Professor Gary N. Calkins.—The Protozoan Life Cycle.

Report of the Committee on Naples Zoological Station.

Report of the Committee on "Index Animalium."

Report of the Committee on Development of Ophiuroids, etc., at the Marine Laboratory, Plymouth.

Professor E. A. Minchin.—Spicule-Formation.

Dr. C. W. Andrews, F.R.S.—The Milk Dentition of the Primitive Elephants.

Arnold T. Watson.—The Habits of Tube-building Worms.

J. E. S. Moore.—Halolimnic Faunas and the Tanganyika Problem.

A. D. Darbishire.—Preliminary note on a New Conception of Segregation.

SECTION E.—GEOGRAPHY.

Address by the President (the Right Hon. Sir G. T. Goldie, F.R.S.).—
Geography and Geology.

Clement Reid, F.R.S.—Changes on the Coasts of the British Isles.

- J. Stanley Gardiner.*—Report of the Committee for Investigations in the Indian Ocean. The Chagos Islands, Indian Ocean.
- J. Parkinson.*—The Structure of Southern Nigeria.
- John Thomson.*—Geographical Photography.
- R. N. Rudmose Brown.*—The Geography of the South Orkneys and other parts of the Antarctic Region.
- Professor A. B. Macallum, F.R.S.*—Report of the Committee on the Quantity and Composition of Rainfall and of Lake and River Discharge.
- Professor W. B. Bottomley.*—The Limestone Caves of Western Australia.

SECTION H.—ANTHROPOLOGY.

- Report of the Committee to Investigate the (Prehistoric) Lake-Village at Glastonbury.
- J. R. Mortimer.*—On the Relative Stature of the Men with Long Heads, Short Heads, and those with Intermediate Heads, in the Museum at Driffield.
- Harold Brodrick & C. A. Hill.*—On a recently discovered Skeleton in Scoska Cave, Littondale.
- F. W. Rudler, I.S.O.*—The 'Red Hills' of the East Coast Salt Marshes.
- Miss Nina F. Layard.*—A Winter's Work on the Ipswich Palæolithic Site.
- Rev. R. Scott-Gatty.*—Pygmy Flints from Yorkshire and Lincolnshire. Report of the Committee to conduct Explorations with the object of ascertaining the Age of Stone Circles.

SECTION K.—BOTANY.

- Address by the President (Professor F. W. Oliver, M.A., F.R.S.).—The Seed a Chapter in Evolution.
- Reports of the Committees on Botanical Photographs, on Peat Moss Deposits, and on the Structure of Fossil Plants.
- C. E. Moss, M.Sc.*—Succession of Plant-Formations in Britain.
- Dr. D. H. Scott.*—Some Aspects of the Present Position of Palæozoic Botany.
- Professor F. E. Weiss.*—On the Occurrence, Distribution, and Mode of Formation of the Calcareous Nodules found in Coal-seams of the Lower Coal-measures.
- Miss M. C. Stopes, D.Sc., Ph.D.*—On the 'Coal-balls' found in Coal-seams.
- Professor F. E. Weiss.*—A *Stigmaria* of unusual type.

II.—BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.
MEETING AT YORK, AUGUST 1ST TO 8TH, 1906. PAPERS READ
BEFORE SECTION C, GEOLOGY.

THE LOWER PALÆOZOIC ROCKS OF POMEROY. By WILLIAM G.
FEARNSIDES, M.A., F.G.S.

The Pomeroy district was originally monographed by Portlock between 1838 and 1845, and has since been neglected. Its lower

Palæozoic succession includes both Ordovician and Silurian rocks, and rests unconformably upon a much older series of hornblendic and pyroxenic gneisses and schists, into which masses of granite were intruded in pre-Silurian time.

The succession may be tabulated as follows:—

C. CORRYCROAR GROUP: Tarannon (Gala Facies):—Variable green and grey flags and shales with purple and green grits and conglomerates. (*Undivided.*)

B. LITTLE RIVER GROUP: Llandovery (Birkhill Facies): Lime Hill Beds:—Black, blocky, micaceous mudstones, with light-coloured calcareous bands. Zone of *Monograptus Sedgwickii* with subzone of *Petalograpti*.—MullaghnaBuoyah Beds:—Variable grey shales and flaggy shales with pyritous spots and a few dark bands. Zone of *Monograptus triangulatus* (sp. ?).—Edenvale Beds:—Smooth, grey shales with black mudstone bands. Zone of *Monograptus tenuis*.—Upper Slate Quarry Beds:—Dark cuboidal mudstones, hard and calcareous. Zone of the *Dimorphograpti*.—Lower Slate Quarry Beds:—Soft, blue-grey, papery, micaceous flags. Zone of *Diplograptus modestus*.—Crocknagargan Beds:—Smooth, grey, pyritous shales. Zone of *Cephalograptus acuminatus*.

A. DESERTCREATE GROUP: Ashgillian Drummuck Facies: Upper Tirnaskea Beds:—Smooth, banded, green and dark mudstones. Zone of *Dicellograptus anceps*.—Lower Tirnaskea Beds:—Tough, blocky, calcareous grits. Zone of *Dicellograptus complanatus* and *Phacops mucronatus*.—Upper Killy Bridge Beds:—Soft, calcareous, grey mudstones, with *Remopleurides* and *Diplograptus truncatus*.—Lower Killy Bridge Beds:—Soft, ferruginous blue or yellow mudstones, with many *Trinucleus* and *Ampyx*.—Upper Bardaheissiag Beds:—Hard and calcareous flags and grits with *Lichas*, *Phacops hibernicus*, *Staurocephalus*, etc., and *Strophomena*.—Lower Bardaheissiag Beds:—Softer, uncompacted grits, sandstones, and conglomerates, with large *Strophomena* and occasional *Orthis*.

The Desertcreate Group finds its closest parallels in the Drummuck Beds of Girvan, while the Little River Group is most like the Birkhill shales of Moffat. The whole series is overlain unconformably by the Dingle Beds of the local Old Red Sandstone, and, with the formation, has been folded into a remarkable series of shallow isoclines trending a little south of east and north of west and having a general southerly pitch. The total thickness of Desertcreate and Little River Groups together does not exceed 500 feet.

REVIEWS.

I.—ELEMENTS OF MINERALOGY. By FRANK RUTLEY, F.G.S.
Fourteenth edition, revised and corrected. Demy 8vo; pp. 251, viii. (London: Thomas Murby & Co.)

THIS little book forms one of the series of textbooks issued by the publishers to meet the requirements of the Science and Art Department, and its popularity is sufficiently indicated by the fact