REPORT OF THE SESSION.

BY W. WRIGHT, F.G.S.

ORDINARY MEETING, *Saturday, January 4th, 1919.*—J. F. N. Green, B.A., F.G.S., President, in the chair.

The Rev. H. A. Soames, Victor Cofman, Edward W. J. Moore and Edmund Oswald Teale were elected members of the Association.

The following lecture was delivered: "Some Aspects of Nigerian Geology," by J. D. Falconer, M.A., D.Sc. The Lecturer stated that:—

Ancient crystalline rocks cover considerable areas in Nigeria and present many features of interest. In places they are penetrated by tin-bearing granites and pegmatites. Cretaceous and Tertiary rocks form a sedimentary series, which is mainly confined to the great river valleys and the coastal regions. Coals and lignites occur on undetermined horizons within this series. Much interest also attaches to the volcanic phenomena and the superficial accumulations.

ANNUAL GENERAL MEETING, *Saturday, February 1st, 1919.*—W. Whitaker, B.A., F.R.S., in the chair.

Messrs. J. Guest and T.W. Reader were appointed Scrutineers and the ballot was declared open.

The Report of the Council for the year 1918 was then read (see Vol. xxx., Part 2, p. 94). It was moved by Mr. Douglas Leighton and seconded by Mr. R. W. Pocock and duly carried: "That the Report just read, including the Statement of Accounts, be adopted as the Annual Report of the Association for the year 1918."

On the Certificate of the Scrutineers the Chairman declared the following duly elected as Officers and Council for the ensuing year.

President: J. F. N. Green, B.A., F.G.S.

Vice-Presidents: E. T. Newton, F.R.S., F.G.S., G. W. Young, F.G.S., F.Z.S., C. W. Andrews, B.A., D.Sc., F.R.S., F.G.S., G. Barrow, F.G.S., A. L. Leach, F.G.S.

Treasurer: S. Hazzledine Warren, F.G.S.

Secretaries: General, W. Wright, F.G.S., Excursions, A. C. Young, F.C.S., Illustrations, Miss M. S. Johnston, F.R.G.S.

Editor: A. Holmes, D.Sc., A.R.C.S., F.G.S.

Librarian: Miss M. C. Crosfield.

Council: C. E. N. Bromehead, B.A., F.G.S., A. H. Cox, M.Sc., Ph.D., F.G.S., G. MacD. Davies, M.Sc., F.G.S., J. W. Evans, LL.B., D.Sc., F.G.S., C. C. Fagg, F. N. Haward, W. D. Lang, M.A., F.G.S., D. Leighton, F.G.S., P. McIntyre, F.G.S., A. W. Oke, B.A., LL.M., F.G.S., Miss E. Pearse, B.Sc., F.L.S., W. Whitaker, B.A., F.R.S., F.G.S.

It was moved by Mr. A. E. Cooper and seconded by Mr. T. W. Reader and duly carried: "That the best thanks of the Association be given to the retiring officers and members of the Council and Auditors."

ORDINARY MEETING, *Saturday, February 1st, 1919*.—W. Whitaker, B.A., F.R.S. in the chair.

Miss A. Norris, Alfred W. Cramp, Ernest A. Turner, P. S. Warren, Y. Y. Lee and W. G. G. Cooper were elected members of the Association.

The following lecture was delivered:—"The Nimrud Crater in Turkish Armenia," by Felix Oswald, D.Sc., F.G.S.

The Nimrud volcano, situated on the west coast of Lake Van in Turkish Armenia, has a perfect crater nearly five miles in diameter. The precipices of the crater-wall rise two thousand feet abruptly from a deep lake, which fills half the area of the crater. The lecturer described the external and internal features of this great volcano, which he visited and surveyed some years ago, and gave a summary of its geological history down to its last eruption in 1441.

ORDINARY MEETING, *Saturday, March 1st, 1919*.—A. L. Leach, F.G.S., in the Chair.

W. J. E. Binnie, C. J. Gilbert and August Perl were elected members of the Association.

The following lecture was delivered: "Some Suggestions on the Flaking and Evolution of Flint Implements," by S. Hazzledine Warren, F.G.S.

Characteristics of the fracture of flint under internal molecular strain, flexion, tension, compression, etc. The planes of least resistance—what they are and what they mean. The designed flake and the accidental chip. Normal flaking at about 75° tending to cuneiform flakes. High angle and low angle edge-flaking tending to incurved flakes. The Levallois-Pressigny method. Suggested evolution of the Neolithic axe and double axe from special forms of palæoliths. Possible development of the Neolithic arrow-point, scraper, sickle-knife and certain other implements from the Mousterian racloir along divergent lines of evolution. The importance of wood and bone for implement making in past human industries.

ORDINARY MEETING, *Friday, April 4th, 1919*.—J. F. N. Green, B.A., F.G.S., President, in the Chair.

A. Brammall, E. A. W. Taylor, H. M. Turnbull and Miss C. Walker were elected members of the Association.

The following lecture was delivered: "Geology and Photography," by W. Whitaker, B.A., F.R.S., F.G.S.

An exhibition of the lantern-slides belonging to the British Association Committee on Photographs of geological interest.

ORDINARY MEETING, *Friday, May 2nd, 1919.*—J. F. N. Green, B.A., F.G.S., President, in the Chair.

Walter E. Aylwin, Robert J. A. Eckford, Frank J. Epps, Miss Vera Larminie, Miss E. F. Noel, Cyrus H. Perkins and Mrs. Mortimer Woolf were elected members of the Association.

The President then delivered the Annual Address, entitled "The Vulcanicity of the Lake District."

On the motion of Mr. H. Fleck, seconded by Mr. A. J. Bull, it was resolved "That the President's Address be printed in full and circulated among the members." (See p. 153 of this Part.)

ORDINARY MEETING, *Friday, June 6th, 1919.*—J. F. N. Green, B.A., F.G.S., President, in the Chair.

Miss Violet R. Barge, Captain H. W. Coates, Mrs. Minnie E. Collins, Major E. Lloyd Jones, Alan J. W. Legge, Walter H. W. Meadows, George Slater, and Edward G. Staples were elected members of the Association.

The following paper was read: "Old Age and Extinction in Fossils," by W. D. Lang, Sc.D., F.G.S. (Sec Vol. xxx., Part 3, p. 102.)

I. A Biological view-point.

The phenomena of old age and extinction must affect our general biological views; and these, in turn, are reflected in our attitude towards these phenomena. Vitalistic (or automatic) and mechanistic (or environmental) views are contrasted, and emphasis laid on the former. An organism has tendencies, or potentialities, towards developing in definite and not in haphazard directions; and these tendencies become actualized during evolution. They are kept in check by inhibiting factors, and on the removal of an inhibition there is an outburst of evolutionary activity; thus evolution is seen to be periodic. Potentialities tend to become exhausted on actualization; but, before this happens, may lead to the exaggeration of a character which, in turn, may cause the extinction of a lineage. Homœomorphy is the expression of common tendencies or potentialities becoming actual along many divergent lineages.

II. This view reflected on to the phenomena of old age and extinction in (a) Cretaceous cribrimorph Polyzoa; (b) Ammonites; and (c) Rugose Corals.

III. The consequences of this view.

A view which ignores, or at least slights environmental influences, is likely to overlook the truth in one direction as far as (so the author believes) a purely environmental or mechanistic view, such as orthodox Darwinism, overlooks it on the other side. As an organism is a synthesis of structure and function, so its structure is a synthesis of expression and impression—expression of potentialities and impression of the environment. A synthesis is not an aggregate, for it transcends the sum of its components. A transcendental theory of evolution would link the field of philosophical biology to the realm of general philosophy.

ORDINARY MEETING, *Friday, July 4th, 1919.*—J. F. N. Green, B.A., F.G.S., President, in the Chair.

Arthur Banks, Miss Lucy Behenna, R. Borley, Oliver M. B.

Bulman, Hugh W. Chapman, Arthur G. Davis, Herbert W. Greenwood, Robert G. Hudson, E. Oliver Taylor and John W. Tutchter were elected members of the Association.

The following lecture was delivered: "The Geology of the Llangollen District," by L. J. Wills, M.A., F.G.S.

The lecture dealt with :—

(1) *The general sequence of Rocks*: The Carboniferous, the Ludlow and Wenlock (Denbighshire type of Salopian Series), the Tarannon-Ilandoverly (Valentian Series), the Ashgillian and Caradocian (Bala Series). Notes on the fossils and zonal divisions and on the igneous rocks.

(2) *The general structure*: The Carboniferous unconformity, the Llangollen Synclinalorium, the Berwyn and Cynr-y-brain Anticlines and the Bala Fault, the Cleavage and Faulting.

(3) *The glacial history of this part of the Chester Dee*: The Welsh and Irish Sea ice-sheets in conflict, the phenomena of the retreat of the ice, the changes in the physical geography and effect on the human occupation.

ORDINARY MEETING, *Friday, November 7th, 1919.*—J. F. N. Green, B.A., F.G.S., President, in the Chair.

Colonel H. E. Deane, William Neagle and John Pringle were elected Members of the Association.

The meeting was followed by a *Conversazione*.

LIST OF EXHIBITS.

The PRESIDENT (J. F. N. GREEN):—1. Rock specimens from the Lake District. 2. Igneous rocks from the Llangollen excursion.

The DIRECTOR of H.M. GEOLOGICAL SURVEY:—Selections of Memoirs and Maps.

G. BARROW:—Quartz pebbles from High-Level Gravels (? Pliocene) North of the Thames.

GERARD W. BUTLER:—Specimens of a lately discovered rich Molluscan fauna from the *A. (Schloenbachia) varians* zone, near Reigate.

MISS M. C. CROSFIELD:—Worked flakes from the fields near Savernake Forest and from the neighbouring Wiltshire Downs.

G. E. DIBLEY:—Group of *Ostrea* showing special features and new and figured specimens of *Pecten*, *Lima*, *Hipponyx*, *Holaster* and *Cardiaster*, from the Chalk.

R. J. A. ECKFORD:—Shale studded with Graptolites (*M. eriguus*) from the Tarannon of Leithen Water, Peeblesshire, *M. crispus* horizon.

J. FRANCIS:—Examples of Jurassic Cephalopoda to illustrate chambers septa, siphuncles, sutures and body-chambers.

W. F. GWINNELL:—Shells, Tufa, and Ash from Temple of Jupiter Serapis, near Naples, and minerals and rocks from Vesuvius. Oligocene shells from Touraine, and Antarctic plants and other specimens, from Ross Island.

F. N. HAWARD:—Series of implements from Grimes Graves, illustrating the patination of flint. Articles illustrating the modern flint-knapping industry of Brandon.

R. BRICE HIGGINS:—Chipped Flints from present Beach of Cromer.

A. HOLMES and G. S. SWEETING:—Photomicrographs of rocks and rock-forming minerals.

- Miss M. S. JOHNSTON :—Flint artifacts from Marlborough Downs.
The Association's Albums of geological photographs.
- A. L. LEACH :—South Pembrokeshire flint implements and photographs.
- J. M. V. MONEY-KENT :—Copper ores and Furnace products.
- S. PRIEST :—Ironstones with siliceous geodes from Howe Hill Pit, London Road, Greenhithe—100 ft. Terrace Gravels.
- T. W. READER :—Photographs taken during recent excursions.
- H. C. SARGENT :—Vein-minerals from North Wales and Derbyshire.
- L. DUDLEY STAMP :—Lead ores from Lontzen, Prusso-Belgian Border.
- F. ROSS THOMSON :—Nummulitic limestone from Menton, Alpes Maritimes, France.
- LL. TREACHER :—1. A Palæolithic implement from the base of the gravel, Furze Platt, Maidenhead, of latest Chellean type, flattened, pear-shaped. Length $12\frac{1}{2}$ in., greatest breadth $6\frac{3}{4}$ in., greatest thickness $2\frac{1}{2}$ in., weight 6lbs. 2ozs. 2. Pebbles from the gravel of Bowsey Hill.
- E. A. TURNER :—More Pebbles from Wimbledon Common.
- A. H. WILLIAMS :—Rock sections and fossils from Llangollen and elsewhere, including specimens from the Lingula flags.
- T. H. WITHERS :—Specimens of *Echinocorys* showing shape-variations.

ORDINARY MEETING, *Friday, December, 5th, 1919.*—J. F. N. Green, B.A., F.G.S., President, in the Chair.

Harold Busbridge, Mrs. Harold Busbridge, Hubert C. Engert John Jerom Hartley, Frank Tinley Ingham, James Johnstone, Herbert P. Lewis, Frank Raw, William Kingdon Spencer, Keith Talbot and Arthur E. Trueman were elected Members of the Association.

The following lecture was delivered : "Geological Work on the Western Front," by W. B. R. King, B.A., F.G.S.