

## BRITISH HONORS

FROM the New Year Honors List *Nature* selects the following names of scientific workers and others associated with scientific work: *K.C.V.O.*: Sir Richard Glazebrook, chairman of the Aeronautical Research Committee, 1908-33. *Knights*: Dr. S. C. Cockerell, director of the Fitzwilliam Museum, Cambridge; G. Evans, principal of the Imperial College of Tropical Agriculture, Trinidad; Dr. Kenneth Lee, chairman of the Industrial Grants Committee, Department of Scientific and Industrial Research; Colonel C. E. Merrett, president and trustee of the Royal Agricultural Society, State of Victoria; Professor Robert Muir, professor of pathology, University of Glasgow; Dr. C. T. Hagberg Wright, secretary and librarian of the London Library. *C.S.I.*: Brigadier R. H. Thomas, lately Surveyor-General of India. *C.M.G.*: Professor R. E. Alexander, director of Canterbury Agricultural College, Lincoln, near Christchurch, New Zealand; Mr. A. Holm, lately director of agriculture, Kenya. *C.I.E.*: Lieutenant-Colonel A. D. Stewart, director of the All-India Institute of Hygiene and Public Health, Calcutta; Lieutenant-Colonel Ram Nath Chopra, professor of pharmacology, School of Tropical Medicine and Hygiene, Calcutta. *C.B.E.*: J. S. Buchanan, deputy director of technical development, Air Ministry; R. G. Hatton, director of the Horticultural Research Station, East Malling, Kent. *O.B.E.*: G. H. J. Adlam, senior science master, City of London School; M. C. C. Bonington, lately divisional forest officer and forest development officer, Andamans; C. Coles, principal of Cardiff Technical College; D. Mackay, for service in connection with scientific exploration and survey in the interior of Australia; Professor W. Makower, professor of science, Royal Military Academy; Dr. P. D. Strachan, superintendent, Leper Settlement, Botsabelo, Basutoland; H. B. Thomas, deputy director of surveys, Uganda Protectorate; A. H. Unwin, conservator of forests, Cyprus. *M.B.E.*: A. S. Buckhurst, assistant in the Plant Pathological Laboratory, Harpenden; B. J. Hartley, district agricultural officer, Tanganyika Territory; C. A. Pinto, curator in the Zoological Gar-

dens, Lahore, Punjab; M. J. S. Rosair, extra assistant conservator of forests, Burma.

## IN HONOR OF PROFESSORS OF MATHEMATICS AT THE UNIVERSITY OF WISCONSIN

A BANQUET in honor of three members of the faculty of mathematics at the University of Wisconsin was recently given by friends, associates and students.

These were Professor Charles S. Slichter, dean of the Graduate School; Dr. E. B. Skinner, professor of mathematics, and Dr. E. B. Van Vleck, emeritus professor of mathematics. A number of representatives from the departments of mathematics of other universities were present. They included Professor George D. Birkhoff, of Harvard University, who formerly taught at Wisconsin; Professors G. A. Bliss and E. P. Lane, of the University of Chicago, and Professor T. F. Holgate, of Northwestern University. In addition, Professor Warren Weaver, who left Wisconsin two years ago to join the Rockefeller Foundation in New York, returned for the occasion.

Speakers at the banquet included President Glenn Frank; Dr. E. A. Birge, president emeritus of the university; George C. Sellery, dean of the College of Letters and Science; Professor Birkhoff and Dr. Weaver. The guests of honor also spoke. Professor Mark Ingraham, of the department of mathematics, acted as toastmaster.

Dean Slichter holds the longest record of service—forty-seven years. He became an instructor of mathematics in 1886, was made assistant professor in 1889 and professor in 1892. Since 1920 he has served as dean of the Graduate School. Professor Skinner joined the faculty as an instructor in mathematics in 1892, forty-one years ago. He became assistant professor in 1910 and since 1920 has been professor of mathematics. Professor Van Vleck became instructor of mathematics in 1893. In 1895 he left the university, but returned as full professor in 1906. He became an emeritus professor in 1928. The three men have a combined service record in the university of one hundred and sixteen years.

## SCIENTIFIC NOTES AND NEWS

PROFESSOR GILBERT A. BLISS has been awarded the Martin A. Ryerson Distinguished Service Professorship for his "brilliant and fruitful service to the University of Chicago." Of the nine distinguished service professorships two are now held by members of the department of mathematics, the Eliakim Hastings Moore Distinguished Service Professorship having been awarded to Professor Leonard Eugene Dickson several years ago.

PROFESSOR HERBERT E. SLAUGHT, emeritus pro-

fessor of mathematics of the University of Chicago, was at the Boston meeting elected honorary president for life of the Mathematical Association of America.

THE gold medal of the Royal Astronomical Society, London, has been awarded to Dr. Harlow Shapley, director of the Harvard College Observatory, for his work on the structure and dimensions of the galactic system. On May 11 Dr. Shapley will deliver the annual George Darwin Lecture to the society.

WILLIAM LAWRENCE BRAGG, Langworthy professor

of physics in the Victoria University of Manchester, and co-recipient of the Nobel Prize for physics in 1915, for work on x-rays and crystal structure, will be the George F. Baker non-resident lecturer in chemistry at Cornell University during the spring term of 1934. Professor Bragg's lectures will consider the methods of analysis by x-rays, the optics of x-rays, and will also discuss the structures of various simple and complex salts as shown by this method. He is expected to reach Ithaca about February 7, and his first public lecture there will be delivered on February 19.

SIR ARTHUR STANLEY EDDINGTON has been appointed Messenger Lecturer at Cornell University this year. He will give a series of twelve lectures on "New Pathways in Science," beginning on Monday, April 9. He will give three lectures a week, on Monday, Wednesday and Friday afternoons, and will conclude the series on May 4. The titles of the lectures are as follows: "Science and Experience," "The End of the World," "The Decline of Determinism," "Indeterminism and Quantum Theory," "Probability," "The Constitution of the Stars," "Cosmic Clouds and Nebulae," "The Expanding Universe," "The Constants of Nature," "The Theory of Groups," "Criticisms and Controversies," and "Epilogue."

GEORGE W. HESS, for more than twenty years director of the United States Botanic Garden, Washington, D. C., would automatically retire by reason of age on June 14, but Congress probably will not allow the garden to lose his services entirely. A bill has been introduced in the House of Representatives by Representative Keller, of Illinois, chairman of the House branch of the joint committee on the Library of Congress, which is the body controlling the garden, to create the post of "director emeritus and consultant of the U. S. Botanic Garden." The new post would pay \$5,000 a year.

THE Pittsburgh Section of the American Chemical Society has selected Dr. Ralph E. Hall, director of the Hall Laboratories, Inc., Pittsburgh, Pa., as the recipient of the 1933 (the first) Pittsburgh Award. This honor, which will be conferred on Dr. Hall at the sectional meeting on February 15, has come to him in recognition of his distinguished service to chemistry and humanity, particularly his contributions to the fundamental knowledge of boiler-water reactions and their applications to the practical solution of boiler-water problems, his discoveries and technical accomplishments in the beneficiation and conditioning of water for industrial and domestic use, and his developments in the production of chemicals for these purposes. The Pittsburgh Award is represented by an especially designed plaque of gold, on which the relation of chemistry to industry is symbolized.

A DINNER in honor of Dr. G. S. Hopkins, on his retirement as active professor in the New York State Veterinary College, was given at Willard Straight Hall, Cornell University, on January 12. Dr. Hopkins is an original member of the faculty of the college. The dinner was sponsored by the alumni and was attended by over two hundred friends and colleagues. Dr. W. A. Hagan was toastmaster. The speakers were as follows: President Farrand, who represented the university; Professor S. H. Gage, the original faculty; Dr. D. H. Udall, the present faculty; Dr. L. E. Moore, the alumni, and Dr. Hopkins.

GOVERNOR MOORE of New Jersey announces that Professor Albert Einstein has accepted an invitation to a state-wide reception in his honor in March at the Atlantic City Convention Hall. The event is being sponsored by New Jersey Jews, seven hundred of whom it is reported dined with the governor at the Jewish Community Center in Jersey City on January 21 to further plans. Governor Moore served as honorary chairman and named a reception committee of educators, industrialists and public officials.

THE Council of the British Scientific Instrument Research Association held an informal luncheon in London on December 21 in honor of Sir Herbert Jackson, director of research of the association from its beginning in 1918 until July 31, 1933. Some thirty members of the council and friends, representing the scientific instrument industry, attended. After the luncheon presentations were made to Sir Herbert and Lady Jackson.

DR. ROBERT P. FISCHER, secretary and chief chemist of the Board of Pharmacy of the State of New Jersey, and lecturer in industrial pharmacy at the Philadelphia College of Pharmacy and Science, has been elected president of the American Pharmaceutical Association for the year 1934-35. He will take office at the annual convention of the association to be held in Washington either in May or August, at which time the new headquarters building of the association will be dedicated. This building is adjacent to the building of the National Academy of Sciences on Constitution Avenue.

H. W. BRINKMANN, assistant professor of mathematics at Harvard University, has been appointed to an associate professorship at Swarthmore College.

PROFESSOR G. F. MARRIAN has been appointed associate professor in the department of biochemistry of the University of Toronto.

PROFESSOR JOSEPH L. KLAMON, of the Washington University School of Business and Public Administration, has been granted leave of absence until March to accept an appointment as principal agricultural economist in the Agricultural Adjustment Administration.

Professor Klamon is now in Washington, where he expects to work in the Dairy Division and in the Commodities Division of the Department of Agriculture.

ELMER B. BROWN, for the past ten years research chemist at the Fleischmann Laboratories, New York, N. Y., has joined the research staff of the Upjohn Company, Kalamazoo, Mich.

DR. HARRY M. LITTLE, of Texas, has recently gone to Pittsburgh, Pennsylvania, to be psychologist at the Pittsburgh Child Guidance Center, which was recently established under a grant of the Buhl Foundation.

APPOINTMENT of Redfield Proctor, formerly governor of Vermont, to the executive committee of the Massachusetts Institute of Technology, is announced. Mr. Proctor will serve during the absence of Professor Elihu Thomson, now recovering from an illness. Mr. Proctor is president of the Technology Alumni Association.

DR. ADOLPH LORENZ, Viennese surgeon, arrived on January 20 for his annual visit to America to treat the many patients that he has in this country. Dr. Lorenz will be eighty years old on April 21.

DR. KARL LANDSTEINER, member of the Rockefeller Institute for Medical Research, has been appointed Cutter Lecturer in preventive medicine at Harvard University for 1934.

JEROME ALEXANDER addressed the Columbus, Cleveland and Akron, Ohio, sections of the American Chemical Society, on January 15, 16 and 17, his subject being "Some Intracellular Aspects of Life and Disease."

DR. E. STARR JUDD, professor of surgery at the Mayo Foundation, has endowed an annual lectureship in surgery at the University of Minnesota. The first Judd Lecture will be given by Dr. Dean Lewis, president of the American Medical Association and professor of surgery at the Johns Hopkins Medical School, on February 13. The subject of the lecture will be "The Hypophysis, the Master Gland: the Histology, the Physiology and the Clinical Syndromes Associated with its Lesions." Dr. Judd is a graduate of the Medical School of the University of Minnesota of 1902.

THE annual Alpha Omega Alpha Lecture of the Jefferson Medical College was delivered by Dr. Vilhjalmur Stefansson. The lecture described his Arctic explorations and his experiences while living on a purely meat diet north of the Arctic circle and in the United States under ordinary business conditions.

PROFESSOR C. H. BEST, of the University of Toronto, gave a course of three lectures at University College, London, on January 11, 15 and 18, on "The Rôle of the Liver in the Metabolism of Carbohydrate and Fat."

*Nature* states that a conference on atomic physics will be held under the auspices of the Physical Society. It will be opened by Lord Rutherford, and will probably extend over two days at least, some of the meetings being held in London and some in Cambridge.

THE French Association for the Advancement of Science will hold in 1934 its meeting at Rabat (Morocco) during the Easter vacation between March 24 and April 10 under the patronage of M. Ponsot, president general, and under the active presidency of Professor Lemoine, director of the National Museum of Natural History at Paris.

THE Fourth International Conference of Applied Mechanics will be held at Cambridge, England, from July 3 to 9.

THE fiftieth session of the American Association of Anatomists will be held in Philadelphia, at the University of Pennsylvania School of Medicine, on March 29, 30 and 31. Information may be obtained from the secretary, Dr. George W. Corner, University of Rochester School of Medicine and Dentistry, Rochester, N. Y.

THE Midwestern Psychological Association will hold its ninth annual meeting as guests of Purdue University, Lafayette, Indiana, from May 10 to 12, under the presidency of Dr. J. J. B. Morgan. Correspondence concerning the meeting may be addressed to the secretary, Dr. John A. McGeoch, Department of Psychology, University of Missouri, Columbia.

DR. WILLIAM LAMBERT RICHARDSON, formerly professor of obstetrics and dean of the Harvard Medical School, who died in October, 1932, bequeathed \$100,000 to the president and fellows of Harvard College to endow a professorship of obstetrics. He also gave \$40,000 to establish the Jeffrey Richardson fellowship in the Harvard Medical School, the income to be awarded each year by the Faculty of Medicine to some deserving student of the Medical School who wishes to continue his studies after graduation.

MORRILL HALL of the University of Tennessee was razed early on January 18 by a \$300,000 fire which destroyed irreplaceable scientific instruments, botanical and other specimens and research data. Authorities said that the building itself was valued at \$75,000 and that the \$225,000 estimated loss on its contents did not take account of intrinsic values. A collection of 30,000 botanical specimens, in process of assemblage since 1875, was insured for \$1 each, but is said to be estimated at \$10,000,000.

MORE than two million dollars had already been taken in one year from funds for scientific research in the U. S. Department of Agriculture before the pres-

ent fiscal year began with its reduced appropriations. The estimated expenditures for experiment and scientific research in the field of agriculture were \$13,898,047 for the year which ended on June 30, 1933. This was a reduction of \$2,434,930, or nearly 15 per cent. below the amount devoted to this work in the year previous. These figures were prepared by the U. S. Department of Agriculture at the request of the United States Senate, and are now given in the report just made public as a Senate Document. More than

70 per cent. of this "saving" was in compensation to the personnel working on scientific investigation. Altogether \$1,741,552 was taken from the salary checks of workers on scientific projects—\$1,188,856 being in the form of the general federal pay cut, and the remainder, about half a million dollars, representing amounts saved through administrative furloughs and dismissals. Altogether 567 workers on scientific projects were dismissed from the Department of Agriculture.

## DISCUSSION

### SOME ERRONEOUS AGE RECORDS OF PALEOZOIC PLANT GENERA

FIFTY years ago the statement that Welsh anthracite coal is characterized by its very low ash (3 per cent.) was still to be found in authoritative textbooks. This glaring misrepresentation, now only too obvious to most householders using anthracite from any source, has only in very recent years passed wholly out of common belief, but the erroneous theory, associated with and apparently founded, in part at least, on it, that anthracite was formed from vegetation different from that composing other coals, is still deep-rooted in many quarters. The ghost of a false record often haunts the literature for a generation or more after it has been exorcised by the specialists in the particular field to which it pertains. The purpose of this paper is to "lay" several ghosts of error relating to the geological range of certain genera of Paleozoic plants.

The genus *Taeniopteris* is nearly everywhere if not wholly confined to strata as young as Permian, of which it is characteristic, though it has a wide Mesozoic range. The plant described by me<sup>1</sup> as *T. missouriensis* is bipinnate and a *Desmopteris*. *Taeniopteris* is simply pinnate and petiolate. Zeiller's *T. jejunata*<sup>2</sup> goes out of the genus for the same reason. Lesquereux's *T. truncata*,<sup>3</sup> from the Allegheny, is a pinnule of *Neuropteris hirsuta* in every detail; the apex is folded backward incidental to burial. His *T. smithii*,<sup>4</sup> of unknown locality and stage, is probably a fragment of *Cannophyllites*, the geological level (upper Pottsville) of which was the source of most of the plants in Dr. E. A. Smith's collection.

*Walchia antecedens* Stur<sup>5</sup> from the Ostrau culm is a Lycopod, probably a *Lepidodendron*, lacking all diagnostic features of *Walchia*, which seems to have

<sup>1</sup> D. White, *Bull. Geol. Soc. Amer.*, 4: 119, pl. 1, 1893.

<sup>2</sup> C. Grand'Eury, "Fl. carb. Loire," p. 121, 1877; R. Zeiller, "Fl. foss. bassin Commeny," Pt. 2, p. 280, pl. 22, figs. 7-9, 1888.

<sup>3</sup> L. Lesquereux, "Coal Flora," Vol. 3, p. 743, pl. 94, fig. 8, 1884.

<sup>4</sup> L. Lesquereux, *op. cit.*, Vol. 1, p. 153, pl. 15, fig. 7, 1880.

<sup>5</sup> D. Stur, "Culm Flora," p. 80, pl. 17, fig. 7, 1875.

made its appearance in the latest Stephanian, notwithstanding Kidston's identification<sup>6</sup> of what is undoubtedly a leafy twig of *Lepidodendron*, from the Stafforidian (Upper Westphalian) of Great Britain, as *W. imbricata*.

Most paleontologists know, though not all lay writers are informed, that the plant-bearing beds ("Fern Ledges," "Little River group," "Cordaite sandstones," etc.) in the vicinity of St. John and Lepreau, New Brunswick, from which C. F. Hartt, Sir William Dawson and G. F. Matthew described species of *Annularia*, *Asterophyllites*, *Palaeostachya*, *Sphenophyllum*, *Calamites*, *Callipteris*, *Neuropteris*, *Odontopteris*, *Cardiopteris*, *Aneimites*, *Megalopteris*, *Alethopteris*, *Pecopteris*, *Cordaite*, *Antholithus*, *Whittleseyia* and *Trigonocarpum*, together with Matthew's genera *Ginkgophyton*, *Johannophyton*, *Lepidocalamus*, *Pseudobaiera* and *Ramicalamus* as Devonian, even Middle Devonian when not Silurian, are now unshakably proved Pottsville (Westphalian) in age. Similarly, the flora, once supposed Mississippian, from Rushville, Ohio, embracing *Alethopteris*, *Megalopteris* (name antedated by *Cannophyllites* Ad. Brongn.), and *Orthogoniopteris*, as described by Andrews, is of upper Pottsville age. Of these genera from New Brunswick and Rushville all except *Cardiopteris*, *Aneimites*, *Neuropteris*, *Calamites*, *Cordaite*, *Antholithus*, *Trigonocarpum* and *Sphenophyllum* are unknown below the Pennsylvanian. *Aneimites* is present in basal Mississippian. *Cardiopteris eriana* Dawson probably represents interpinnae rachial pinnules of a plant belonging to the *Neuropteris gigantea* stock. *Cardiopteris* proper is a Mississippian genus characteristic of the Chester. *Callipteris pilosa* Dawson is a *Sphenopteris*, as was noted by Stopes; *Callipteris* proper is the most wide-spread and characteristic genus of the Permian.

On the other hand, the plant from Rushville described by Andrews as *Archæopteris stricta*, which so far as found is a strictly upper Pottsville species,

<sup>6</sup> R. Kidston, *Trans. Roy. Soc. Edinb.*, Vol. 35, p. 324, pl. 35, fig. 9, 1888; *Proc. Geol. Polytechn. Soc. Yorksh.*, Vol. 14, p. 368, pl. 63, fig. 1, 1902.