

AFTER an interval of four years, due to the circumstances of war, the eighth annual general meeting of the Old Students Association of the Royal College of Science, London, will be held on Saturday, May 24, at 3.30 p.m., at the Imperial College Union, Prince Consort Road, South Kensington. The meeting will discuss the important questions raised by the petition to the governing body of the Imperial College, signed by past and present students of the Royal College of Science, requesting it to take immediate steps to raise the status of the college to that of a university of technology, empowered to confer its own degrees in science and technology. At the conclusion of the regular business an address will be given by the retiring president, Prof. H. E. Armstrong. The eighth annual dinner of Old Students will be held at the Café Monico after the general meeting. Tickets may be obtained from the secretary, Mr. T. L. Humberstone, 21 Gower Street, W.C.1.

A CONFERENCE attended by representatives of the professorial and non-professorial teaching staffs of the university institutions of England, Wales, and Ireland, with Mr. R. D. Laurie, of the University College of Wales, Aberystwyth, as chairman, met at the University of Sheffield on April 11 to discuss the position with regard to superannuation, in view of the recent Act, which confers non-contributory pension benefits upon all teachers in State-aided institutions except university teachers. Since 1913 there has been a pension scheme for universities of a contributory character, known as the Federated Superannuation Scheme, under which the State pays one-half of the total contribution and the other half is paid by the beneficiary. This scheme, which in its present form compares very unfavourably with the non-contributory scheme under the Teachers (Superannuation) Act, is mainly applicable, however, to professorial staffs, as the majority of lecturers are in receipt of salaries so low that they cannot afford to make the necessary contribution. After discussion at the recent meeting, a motion, "That this conference wishes to urge strongly that the Teachers (Superannuation) Act, 1918, be extended so as to include the staffs of universities and university colleges," was carried with only one dissident. A further resolution, carried unanimously, was:—"That this conference urges that before any modification of the Federated Superannuation Scheme for university teachers be adopted, an opportunity be given to the various sections of the staffs of the universities to place their views directly before the President of the Board of Education and the Treasury, and that this resolution be communicated immediately to the President of the Board of Education." It was also decided to communicate with all the associations of teachers in schools which come under the present Act to advise them of the action being taken by the conference.

A CONFERENCE to direct attention to the position of science in the educational system of the country was held at the Central Hall, Westminster, on April 30, under the auspices of the League for the Promotion of Science in Education. The chair was taken by Lord Leverhulme, who said that our system of education should take into the fullest possible consideration the means that science had placed at our disposal in the daily life and industries of the nation. Three resolutions were submitted to the conference and carried unanimously. The first of these emphasised the importance of having an adequate representation of scientific men in all Government Departments, and in proposing it Mr. Sanderson, the headmaster of Oundle School, deplored the lack of scientific outlook by Government officials, and criticised the new regulations for the Civil Service examinations Sir

Philip Magnus, M.P., in seconding, emphasised the fact that the league did not in any way desire to favour scientific teaching at the expense of so-called humanistic studies. They wished, however, to encourage the adoption of the scientific method in all branches of learning. Mr. Charles Bright supported the resolution, and suggested that men of scientific and business experience might well be introduced into the *personnel* of Government Departments. Mr. Arthur Lynch, in proposing the second resolution calling for a pronouncement by the Government as to its attitude towards the recommendations of Sir J. J. Thomson's report, criticised the lack of scientific knowledge of Members of Parliament in matters of general education. Lord Headley seconded this resolution, and attributed the indifference to matters of this nature to the lack of scientific education, which alone could produce action and organising ability. The third resolution was proposed in a forceful speech by Dr. H. B. Gray, formerly headmaster of Bradfield College, who expressed the view that the present public school and university system failed to produce that activity of mind and breadth of knowledge which were necessary for dealing satisfactorily with modern problems. Mr. Edward Berkeley, a member of the council of the National Union of Manufacturers, seconded this resolution.

#### SOCIETIES AND ACADEMIES.

##### LONDON.

**Royal Anthropological Institute**, April 8.—Sir Everard im Thurn, president, in the chair.—Lieut. E. W. Pearson **Chinnery**: Reactions of certain New Guinea primitive people to Government control. It is the desire of Australia to put down cannibalism and general savagery and introduce civilisation among people of the Stone age in Papua without injury to them. Cannibalism and savagery are essential parts of the social and religious fabric of an uncivilised community. If they are to be suppressed without injury to the people, alternative practices of equal potency must be substituted to perpetuate material welfare and develop cultural institutions in accordance with the laws of the Government. Since the wild tribes of Papua received their first alien stimuli through the magistrates of their districts, progress depends on the ability of these officers to establish a proper relationship of mutual understanding and confidence between Government and subjects. When this is attained the officers, by intensive study of the culture of their people, can acquire a knowledge of the modes of thought that produce customs antagonistic to civilised standards, and safely guide the people through the stages of transition. If a system of training district magistrates in anthropological methods is added to existing methods of administration, Australia should, in the shortest possible time, achieve the credit of having conducted the savage of the Stone age, without injury to him, to an attainment of the ideals of civilisation.

##### PARIS.

**Academy of Sciences**, April 22.—M. Léon Guignard in the chair.—D. **Berthelot**: Notice on the work of Sir William Crookes.—G. **Bigourdan**: The work of Le Monnier at the meridian of Saint-Sulpice. The end of the observatory of the rue Saint-Honoré.—G. **Julia**: Some properties of integral or meromorphic functions.—A. **Guldberg**: The law of errors of Bravais.—G. **Guillaumin**: Certain particular solutions of the problem of sandy flow.—MM. **Jouguet** and **Crussard**: The velocity of deflagrations.—M. **Amans**: Equations of similitude in propulsive helices.—M. **Picon**: The

action of the monosodium derivative of acetylene on some halogen esters of secondary and tertiary alcohols. The reaction differs from that shown by halogen esters of primary alcohols, and the corresponding acetylene compounds are not formed. Halogen acid is eliminated and ethylene hydrocarbons are produced.—**J. Amar**: The curve of pulmonary ventilation. A study of the effects of physical fatigue on respiration.

April 28.—**M. Léon Guignard** in the chair.—**H. Parenty**: Presentation of a miniature model of a steam recorder. The apparatus, a photograph of which is given, is based on the measurement of pressure in front and behind a constriction in the pipe.—**A. Rigbi**: Michelson's experiment and its interpretation.—**M. Carleman**: The conformable representation of multiply connected domains.—**L. E. J. Brouwer**: The enumeration of finite groups of topological transformations of a torus.—**A. Denjoy**: The true value of definite integrals.—**R. Biquard**: A modification of the fluorometric method of measuring X-rays and its application to the measurement of the radiation from Coolidge bulbs. Measurements with fluorescent screens cannot give a value of the radiation in absolute measure, since the fraction of the incident energy absorbed by such screens may vary, according to the nature of the X-rays, between 53 and 20 per cent. of the whole, and matters are not improved by increasing the thickness of the screen, since the observed brightness is due to the superficial layers only. This difficulty is avoided by the use of a sufficient number of thin screens (0.2 mm.).—**M. de Broglie**: The spectroscopy of the X-rays. The L absorption spectrum of radium.—**J. Bourcart**: The presence of the Priabonian in the Salonica region.

### BOOKS RECEIVED.

Botany of the Living Plant. By Prof. F. O. Bower. Pp. x+580. (London: Macmillan and Co., Ltd.) 25s. net.

Premiers Eléments d'une Théorie du Quadrilatère Complet. By A. Oppermann. Pp. 76+plate. (Paris: Gauthier-Villars et Cie.)

Technic of Surveying Instruments and Methods, including General and Detailed Instructions for Field and Office Work of Extended Students' Surveys. By Profs. W. L. Webb and J. C. L. Fish. Pp. xvi+319. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 9s. 6d. net.

### DIARY OF SOCIETIES.

#### THURSDAY, MAY 8.

INSTITUTION OF ELECTRICAL ENGINEERS (Joint Meeting with the Iron and Steel Institute), at 2.30.—**J. Bibby**: Developments in Iron and Steel Electric Furnaces.—**W. H. Booth**: The Booth-Hall Electric Furnace.—**H. A. Greaves**: Application of Electrical Energy to the Melting of Metals.—**R. G. Mercer**: Electric Furnaces in the United Kingdom, 1918.—**Axel Sahlin**: A New Type of Electric Furnace.—**Victor Stobie**: Large Electric Steel Melting Furnaces.

ROYAL INSTITUTION, at 3.—**Dr. H. S. Hele-Shaw**: Clutches.

INSTITUTION OF MINING AND METALLURGY, at 5.30.—Annual General Meeting.—**Hugh K. Picard**: Presidential Address.—**H. Standish Ball**: The Work of the Miner on the Western Front, 1915-18.

OPTICAL SOCIETY, at 7.30.—**Prof. F. J. Cheshire**: Presidential Address—Polarised Light.—**J. Rheinberg**: Graticules.

#### FRIDAY, MAY 9.

ROYAL ASTRONOMICAL SOCIETY, at 5.—**A. W. Clayden**: Note on the Blue Violet Absorption of Venus.—**E. Doolittle**: Note on Espin's List of New Double Stars.—**A. N. Brown**: Observations of U Persei in 1911-19.—**A. Pannekoek**: The Distance of the Milky Way.—*Probable Papers*: **Rev. T. E. R. Phillips**: Micrometrical Measures of Double Stars in 1918.—**Rev. A. L. Cortie**: The Spectrum of Nova Aquilæ, 1918, July 29.—**W. M. Smart**: Note on the Position Line of Navigation.

PHYSICAL SOCIETY, at 5.—**A. E. Bawtree**: Demonstration of a New Method of Producing Coloured Designs upon Glass.—**F. J. Whipple**: Absolute Scales of Pressure and Temperature.—**Dr. A. O. Rankine**: The Transmission of Speech by Light.

ROYAL INSTITUTION, at 5.30.—**Sir George Macartney**: Chinese Turkistan—Past and Present.

MALACOLOGICAL SOCIETY, at 6.—**G. B. Sowerby**: A New Species of Ampullaria in the Geneva Museum.—**Dr. A. E. Boycott**: Parthenogenesis in *Palaudestrina jenkinsi*.—**Tom Iredale**: Notes on the Mollusca of Lord Howe Island.

NO. 2584, VOL. 103]

#### SATURDAY, MAY 10.

ROYAL INSTITUTION, at 3.—**Prof. H. S. Foxwell**: Chapters in the Psychology of Industry.

#### MONDAY, MAY 12.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—**A. Trevor Batty**: Crete: its Scenery and Natural Features.

#### TUESDAY, MAY 13.

ROYAL INSTITUTION, at 3.—**Prof. A. Keith**: British Ethnology—The People of Ireland.

ROYAL ANTHROPOLOGICAL INSTITUTE, at 5.—**Sir Everard im Thurn**: Dwellings and Costumes of Old Fiji, illustrated by Lantern Slides and Specimens.

ZOOLOGICAL SOCIETY, at 5.30.—**Lt.-Col. S. Monckton Copeman**: Experiments on Sex Determination.

#### WEDNESDAY, MAY 14.

ROYAL SOCIETY OF ARTS, at 4.30.—**H. Kelway-Bamber**: Railway Transport in the United Kingdom.

INSTITUTION OF ELECTRICAL ENGINEERS, at 6.—**Major J. Erskine-Murray**: Wireless in the Royal Air Force.

BRITISH PSYCHOLOGICAL SOCIETY (Medical Section), Medical Society of London, 11 Chandos Street, W.1, at 8.30.—**Dr. W. H. R. Rivers**: Inaugural Address—The Objects and Work of the Section.

#### THURSDAY, MAY 15.

ROYAL INSTITUTION, at 3.—**Prof. F. Keeble**: Intensive Cultivation.

ROYAL SOCIETY, at 4.30.—*Probable Papers*: **Prof. W. H. Young**: (1) The Area of Surfaces; (2) Change of the Independent Variables in a Multiple Integral.—**Prof. W. A. Bone** and **R. J. Sarjant**: Researches on the Chemistry of Coal. I. The Action of Pyridine upon the Coal Substance.—**Prof. E. F. Burton**: A New Method of Weighing Colloidal Particles.—**W. E. Curtis**: The Value of the Rydberg Constant for Spectral Series.

ROYAL SOCIETY OF ARTS, at 4.30.—**Prof. H. E. Armstrong**: Soil Deficiencies in India, with Special Reference to Indigo.

INSTITUTION OF ELECTRICAL ENGINEERS, at 6.—**E. A. Laidlaw** and **W. H. Grinstead**: The Telephone Service of Large Cities, with Special Reference to London.

CHEMICAL SOCIETY, at 8.—**B. Blount** and **J. H. Sequeira**: "Blue John" and other Forms of Fluorides.—**G. M. Bennett**: The Nitration of Diphenyl-ethylenediamine.—**D. L. Hammick**: The Destruction of Picric Acid in Nitrating Acid.—**J. C. Irvine** and **J. S. Dick**: The Constitution of Maltose. A New Example of Degradation in the Sugar Group.—**R. J. Manning** and **M. Nierenstein**: The Tannin of the Canadian Hemlock (*Tsuga Canadensis*, Carr).

#### FRIDAY, MAY 16.

ROYAL INSTITUTION, at 5.30.—**Dr. S. F. Harmer**: Sub-Antarctic Whales and Whaling.

#### SATURDAY, MAY 17.

ROYAL INSTITUTION, at 3.—**Dr. J. Wells**: Caesar's Personal Character as seen in his Commentaries.

### CONTENTS.

	PAGE
Joseph Black . . . . .	181
The Functions of the Internal Ear. By Prof. A. Keith, F.R.S. . . . .	182
Military Geology and Topography. By W. B. R. K. . . . .	183
Our Bookshelf . . . . .	183
Letters to the Editor:—	
The Cultivation of Sponges.—Lieut. W. R. Dunlop, R.N.V.R. . . . .	184
Wasps.—W. F. Denning . . . . .	185
The Lunar Tide in the Atmosphere. (With Diagram.) By Dr. S. Chapman . . . . .	185
Inter-Allied Co-operation in Chemistry . . . . .	187
The Royal Academy. By J. S. D. . . . .	188
Robert Chapman Davie . . . . .	189
Notes . . . . .	190
Our Astronomical Column:—	
Determination of Proper Motions . . . . .	194
The Blink Microscope . . . . .	194
Calculation of Occultations of Stars by the Moon . . . . .	194
X-Rays and British Industry. By Major G. W. C. Kaye . . . . .	194
Radio-Telegraphic Investigations in Connection with the Solar Eclipse of May 29, 1919 . . . . .	196
The Bureau of Standards and the War . . . . .	197
University and Educational Intelligence . . . . .	198
Societies and Academies . . . . .	199
Books Received . . . . .	200
Diary of Societies . . . . .	200

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