

is noted that in the testing of balloon fabrics no satisfactory equivalent for exposure to weather has been found, confirming experience in this country. There was a greatly increased demand for standard analysed samples as furnished by the Bureau.

The engineering section of the Bureau is responsible for the control of a large amount of routine testing work of various kinds, some of which is carried out in branch laboratories. For work in aerodynamics a new building and wind-tunnel have been provided; the latter is octagonal in section, the distance between opposite faces being  $4\frac{1}{2}$  ft., and a wind-speed of ninety miles per hour is obtained with an expenditure of 85 h.p. Autographic instruments for measurements on aeroplanes in flight have been designed. Much work has also been done on materials for aircraft construction and the strength of aeroplane parts. The inspection and testing of cement and concrete for the Government and the public are on a large scale, and have included investigations relating to concrete ships. Stress reversal tests on reinforced concrete beams have been carried out. Lubricating oils have been investigated. The textile division has given attention to aeroplane and balloon fabrics; a cotton fabric for wing-covering was produced with the aid of the manufacturers which was considered superior to linen, and has been widely used.

In the metallurgy division considerable developments have taken place, and a brief description is given of the new laboratories and equipment installed, which will be found of interest. As at the National Physical Laboratory, light alloys for the construction of aircraft and aircraft engines have received a great deal of attention, and evidence of co-operation appears in the adoption of a programme to supplement work done here. Stress is laid on the necessity for the systematic study of constitution to secure further progress. The properties of metals at high temperatures are being investigated. Ceramics is also a subject on which much research is in progress.

This brief survey will suffice to show that the report contains evidence of a vast amount of scientific and industrial research which will be of the greatest interest and importance to those who are working on parallel lines in this country. A special feature of the work of the Bureau is the attention given to methods of making available for ready reference throughout the country the results of the various investigations. Four separate series of publications are issued: (i) scientific papers, (2) technologic papers, (iii) circulars, and (iv) miscellaneous publications; these are widely distributed to institutions and libraries. The need in this country of more effective means for the rapid dissemination of technical information among those to whom it is of value has been very apparent during the war, and in the consideration which is now being given to this matter the methods adopted by the Bureau will be found to merit careful examination.

### UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

**BIRMINGHAM.**—Dr. S. W. J. Smith, F.R.S., assistant professor at the Imperial College, South Kensington, and for many years secretary of the Physical Society of London, has been elected to the Poynting chair of physics in the University.

**CAMBRIDGE.**—Sir Ernest Rutherford, Cavendish professor of experimental physics, has been elected to a fellowship at Trinity College.

Dr. H. Hartridge, of King's College, has been appointed demonstrator of physiology until September 30, 1921.

NO. 2584, VOL. 103]

Mr. Bennett Melvill Jones and Mr. James Wyvill Lesley have been elected to junior fellowships at Emmanuel College. Mr. Jones was placed in Class I. of the Mechanical Sciences Tripos, 1909, and has been awarded the Air Force Cross for his work with the Royal Air Force, of which he has been a temporary lieutenant-colonel. Mr. Lesley was placed in Class I., Part I., of the Natural Sciences Tripos in 1910, and obtained the agricultural diploma. He was awarded a scholarship of the Board of Agriculture in 1911, and was a student of the John Innes Institution, 1912. He was temporary captain in the K.R.R.C., gained the Military Cross, and was a prisoner in Germany, 1917-18.

DR. BOON has been appointed to the chair of chemistry at Heriot-Watt College, Edinburgh.

MR. R. W. H. HAWKEN has been appointed to succeed Prof. A. J. Gibson as professor of engineering in the University of Queensland.

WE learn from the *Morning Post* that a donation of 10,000*l.* has been given to the Cape University by the National Bank of South Africa.

MR. W. J. JOHN, formerly a wireless telegraphy engineer under the Admiralty, has been appointed lecturer in electrical engineering at the East London College.

THE *Times* announces that Dr. James Younger and his wife have given 30,000*l.* to provide the University of St. Andrews with a memorial hall. The main hall, to be used for University purposes, is to have an organ and to accommodate a thousand. There will also be a smaller hall.

AN ingenious astronomical model for schools and colleges, devised by Dr. W. Wilson, was described in *NATURE* of May 2, 1918, p. 173. Demonstrations on the uses and working of this model are being given by the inventor in the show-room of Messrs. George Philip and Son, Ltd., 32 Fleet Street, and the concluding one will be on Saturday, May 10, at 11.30 a.m.

MRS. ELLEN MORGAN has bequeathed 1000*l.* to the University of Liverpool for a John H. Morgan scholarship to be awarded to students of the University who have passed the Matriculation Examination and intend to proceed to a degree of faculty of engineering, and who or whose parents are too poor to defray the ordinary expenses of pursuing an academic career at the University.

By the will of Dr. J. Percival, late Bishop of Hereford, the following bequests will be made:—1000*l.* to Appleby Grammar School; 2000*l.* to Clifton College; 1000*l.* each to Queen's College, Oxford, and Trinity College, Oxford, all for helping scholars of distinguished ability who are in need of assistance to meet educational expenses; and 1000*l.* to the Bishop of Hereford for the education of one or two boys or girls.

THE President of the Board of Education has appointed a Departmental Committee to inquire into the position occupied by English (language and literature) in the educational system of England, and to advise how its study may best be promoted in schools of all types, including continuation schools, and in universities and other institutions of higher education, regard being had to (1) the requirements of a liberal education; (2) the needs of business, the professions, and the public services; and (3) the relation of English to other studies. The chairman of the Committee is Sir Henry Newbolt, and the secretary Mr. J. E. Hales, to whom all communications should be addressed at the Board of Education, Whitehall, London, S.W.1.

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