

oenologist. A mycologist will be appointed in due course. In the biochemical laboratory Mr. Arthur Geake has been appointed research assistant to Dr. Nierenstein for the investigations on the chemistry of Cheddar cheese, and Mr. C. W. Spiers research assistant for the cider tannins investigation.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—The council of St. John's College has offered to the University 500*l.* as a contribution to the equipment of the Solar Physics Observatory on its installation in Cambridge.

The special board for biology and geology has adjudged the Walsingham medal for 1912 to E. D. Adrian, for his essay entitled, "On the Transmission of Subnormal Disturbances in Normal and in Incompletely Recovered Nerve."

The Walsingham medal for 1913 is to be awarded for an essay embodying the results of original research on any botanical, geological, or zoological subject, zoology being understood to include animal morphology and physiology.

K. R. Lewin has, with the approval of the Vice-Chancellor, been appointed assistant to the Quick professor of biology, in succession to Mr. C. Strickland, who has resigned the post.

The General Board of Studies has appointed W. B. Hardy a University lecturer in physiology from January 1, 1913, until September 30, 1917.

N. Cunliffe has been appointed to the studentship in medical entomology lately held by G. Merriman.

It is proposed to confer the degree of Master of Arts, *honoris causa*, upon Sir Arthur Thomas Quiller-Couch, King Edward VII professor of English literature, and upon Dr. John Read, assistant to the professor of chemistry.

OXFORD.—On November 26 the preamble of the statute abolishing the existing division into orders of the elected members of council was moved in Congregation by Prof. Geldart, and supported by the warden of Keble. It was opposed by Prof. Gotch and Mr. Ball, and rejected by 87 to 105. The statute will probably be reintroduced in another form.

At the same meeting of Congregation the preamble of a statute amending the constitution of Congregation by abolishing the qualification of residence, and providing that in future that body shall consist only of the teaching and administrative elements in the University and colleges, was moved by Prof. Geldart, and, in spite of the opposition offered by the master of Balliol and Mr. Ball (by the latter on the ground that it provided for the safeguarding of vested interests), was carried by 100 to 79. An objection felt in many quarters to this enactment is based on the fact that it will disfranchise such persons as those graduates engaged in scientific or other research who do not happen to be employed in teaching or administration within the University. It is understood that no amendment to admit such persons will be possible under the preamble as now carried.

THE office of Vice-Chancellor of the University of Sheffield, vacant through the retirement of Sir Charles Eliot, has been accepted by Mr. H. A. L. Fisher, fellow and tutor of New College, Oxford.

AMONG the bequests of Mrs. A. M. Jones (widow of Prof. Tom Jones, of Manchester, surgeon), who died on October 30, are 1000*l.* to the Victoria University, Manchester, in augmentation of the endowment of the Prof. Tom Jones memorial scholarship, and

500*l.* to the University College of Wales, Aberystwith, as an endowment for promoting the study of surgery.

At the annual meeting of the court of governors of the University of Wales on November 22 a resolution, moved by Sir Isambard Owen, that steps be taken to secure representation in Parliament for the Welsh University was carried by seventeen votes to twelve. In moving his resolution, Sir Isambard said that if university representation is to be continued there is no doubt that the younger universities will all be agitating for privileges with the older universities, and there is a danger that Parliament will pool these younger universities with only one representative for each group. He held that it is necessary that the Welsh University should not be pooled with, say, Birmingham or Bristol, because the Welsh University is national and possesses distinct interests.

THE governing body of the Imperial College of Science and Technology has decided to combine all the mathematical work of the Imperial College, and of its integral parts, viz. the Royal College of Science, the Royal School of Mines, and the City and Guilds (Engineering) College, into one department, and to place the supervision of this department under a chief professor of mathematics. A special joint committee of the governing body and of the delegacy of the City and Guilds College has now been constituted in connection with the selection of a suitable individual for appointment to the chair. It is the intention of the governing body to make the appointment from a date during the current session, so as to enable the new organisation to be perfected before October next, when the work of session 1913-14 begins.

THE proceedings at the congress of the fifty-three universities of the Empire, which took place in London last July, were described in articles published in the issues of NATURE for June 13 and July 11 last (vol. lxxxix., pp. 385 and 477). The official record of the proceedings has now been published for the congress by the University of London Press, Messrs. Hodder and Stoughton, London, as a volume of 464 pages, the price of which is 10*s.* net. If the congress meets, as proposed, at recurring intervals of five years, reports such as that now available will serve excellently to record the steps in the future development of university ideals. Not only are the papers read at the congress by experts on university education included, but the speeches made at the various meetings are also reported.

THE calendar for the session 1912-13 of University College, London, which is now available, is full of interesting particulars of the manifold activities of this important constituent college of the University of London. The list of original papers and other publications from the various departments of the college, since the dean's report in the preceding calendar, runs to sixteen pages, and an examination of it shows that each faculty recognises fully the vital importance of research work. It is worthy of note that the new chemical laboratories have been begun, and will be ready in about a year's time. The equipment of the faculty of medical sciences has been improved by the provision of the new pharmacology laboratories by Mr. Carnegie. These laboratories will shortly be opened. The total number of students in the college during the session 1911-12 was 1679—1031 men and 648 women. Engaged in post-graduate and research work there were 286 men and 117 women. The faculty of science was chosen by 175 men and 131 women, and engineering was taken up by 104 men.

THE Department of Agriculture and Technical Instruction for Ireland has arranged that a limited number of scholarships and of teacherships-in-training

tenable at the Royal College of Science, Dublin, shall be offered for competition among Irish students of science and technology in 1913. The scholarships are of the value of 50*l.* per annum, and, in addition, entitle the holder to free instruction during the associate course. A teachership-in-training has similar advantages except that the maintenance allowance is 21*s.* per week for the session of about forty weeks. Candidates must be not less than sixteen nor more than thirty years of age on June 1, 1913, and will have to satisfy the Department as to their knowledge of English and of one other of the languages—Greek, Latin, Irish, French, or German. The competition will be confined to mathematics, experimental science, and drawing. Applications for admission to the examination must be made not later than April 30, 1913, on forms copies of which may be obtained upon application to the Secretary, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion Street, Dublin, or to the Registrar, Royal College of Science, Upper Merrion Street, Dublin.

SOCIETIES AND ACADEMIES.

LONDON.

Physical Society, November 8.—Prof. A. Schuster, F.R.S., president, in the chair.—H. R. Nettleton: A method of measuring the Thomson effect. The distribution of temperature down a conductor conveying an electric current and at the same time moving uniformly through two fixed temperature sources is investigated. The effect of the Thomson heat on the distribution is exactly similar to the effect of a small impressed velocity. This result was applied to mercury to measure the Thomson effect by comparing the alteration of temperature $\Delta\theta_1$ at a point near the middle of the gradient caused by reversing a current of *C* amperes with the alteration of temperature $\Delta\theta_2$ at the same point due to a flow of mercury of *m* grams per second. Without any approximation as to emissivity loss or magnitude of Joulian heat, $2C\sigma/ms = \Delta\theta_1/\Delta\theta_2$, where *s* is the specific heat of mercury and σ the specific heat of electricity. Working with currents of from 4 to 9 amperes and with flows of different magnitudes—but never exceeding 1 cm. per hour—consistent values of σ were obtained, the value at 61° C. being -1.52×10^{-6} calories per degree Centigrade per coulomb. The thermo-junctions, which were of iron and constantan, were fused through the glass tubes with inappreciable distortion.—F. W. Jordan: An improved Joule radiometer and its applications. The first part relates to improvements made in order to convert the original Joule convection apparatus into an instrument for the exact measurement of small steady rates of evolution or absorption of heat. These improvements consisted in (1) replacing the badly conducting glass enclosure and cardboard partition by others made of brass and copper; (2) replacing the uncertain and variable magnetic control of the movement of the vane in Joule's apparatus by the elastic control of a quartz fibre; (3) shaping the channels, in which the vanes moved, so that the angular deflection of the vanes was proportional to the rate of evolution of heat; (4) reducing the size, so that uniform temperatures of its various parts could be maintained by (5) placing the radiometer within a concentric brass tube to exclude all extraneous heat excepting that which might be directed through apertures in its side towards the radiometer. The sensibility of the instrument was measured and found to be equal to 0.52 mm. per microwatt, as measured on a scale at a distance of one metre from the mirror.

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Thus the instrument may be used for the measurement of feeble oscillating currents. To convert the apparatus into an instrument for the measurement of radiant heat it is suggested that the radiant heat be directed through a small rock salt or fluoride window in the side of a compartment on to a thin blackened metal disc supported centrally. Its use for the quick measurement of the heat given out by radium is also suggested. The second part relates to a suggested method of measuring the Thomson effect with this radiometer. The method hinges on an experiment described by the author in *NATURE*, May 18, 1911.—Miss A. Somers: Note on the attainment of a steady state when heat diffuses along a moving cylinder. The paper dealt with the case of a column of mercury moving with uniform speed between two fixed temperature sources. The differential equation for the temperature within the column was stated and its solution given, and it was shown how the time of attainment of a steady state could be obtained from the latter. Dr. S. W. J. Smith: Thermomagnetic study of steel. Thermomagnetic measurements make it increasingly evident that the magnetic properties of steels are frequently those of mixtures of magnetic substances, each possessing characteristic properties, which contribute in a comparatively definite way to the properties of the material as a whole. In the case of a simple ferromagnetic substance, magnetising fields can be found in which the permeability variation with temperature is small except in the neighbourhood of the critical temperature. In such fields there is a marked peak in the permeability temperature curve for the substance. The explanation of this peak suggests that the phenomenon should be found common to all ferromagnetic substances. The paper shows that it is exhibited by the carbide of iron (cementite) in annealed carbon steels.

Mineralogical Society, November 12.—Anniversary meeting.—Dr. A. E. H. Tutton, F.R.S., president, in the chair.—Prof. W. J. Lewis: Ilmenite from the Lengenbach Quarry. Imbedded in the dolomite was found a minute crystal, irregular in habit, showing the forms 110, 101, 100, 112, 111, 275. The best readings were obtained from pairs of faces of 101 and between them and faces of a prism, the corresponding angles being found to be 64° 47' and 57° 33' respectively.—Prof. W. J. Lewis: Multiple twin of cassiterite. Three-fold twinning is well and regularly developed on opposite sides of the crystal, which consists of two main portions with twin axes all in one plane, and the triplets so formed are connected together in a somewhat irregular way. Further, some of the individuals are twinned along pyramid faces inclined to the general plane, so that the back of the crystal is unlike the front.—Arthur Russell: An account of the minerals found in the Virtuous Lady Mine, near Tavistock. The following species were met with:—Chalybite, in pseudomorphs after fluor and barytes, termed respectively "boxes" and "slippers" by the miners; marcasite in sheaf-like aggregates; mispickel in two modifications; anatase, on one crystal of which was found a small crystal of brookite, the only one seen by the author from this locality.—Dr. A. Hutchinson: Some graphical methods in crystallography and crystal optics. Diagrams of expressions involving sines, such as $\sin E = \beta \sin V$, are much simplified by taking log sines for coordinates, the result being a series of parallel straight lines.—Dr. A. Hutchinson and W. Campbell Smith: Labradorite from St. John Point, co. Down. The large fresh crystals of felspar, which occur in a basaltic dyke, have physical characters—specific gravity 2.706, extinction on 010 and 001 -23° and -11° respectively, refractive