

### UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

LIVERPOOL.—Mr. C. Sydney Jones has given the University the sum of 8000*l.* for the endowment of the chair of classical archaeology, in memory of his father, the late Mr. C. W. Jones, who was one of the founders of the chair in 1906.

LONDON.—The several faculties have elected their respective deans for the period 1916-18; among these are:—*Medicine*, Sir Bertrand E. Dawson, London Hospital Medical College; *Science*, Prof. Herbert Jackson, King's College; *Engineering*, Dr. H. C. H. Carpenter, Imperial College of Science and Technology; *Economics*, the Hon. W. Pember Reeves, London School of Economics.

OXFORD.—Much interest has been aroused in Oxford by the debate in the House of Commons on the second reading of the Rhodes Estate Bill. The Bill proposes to establish twelve scholarships of 300*l.* a year each in lieu of the fifteen scholarships of 250*l.* tenable by German students nominated by the Kaiser. The scheme in its present form contemplates the distribution of the twelve new scholarships among colonists of the British Empire, but it is felt in some quarters that it might be advantageous, and not out of accordance with Mr. Rhodes's intention, to extend the benefit to a wider sphere. The adoption of Lord H. Cecil's proposal to give the committee power to grant discretion to the trustees to make the substituted scholarships available for students whether within or without the British Empire has accordingly been received by many with approval. It remains to be seen what form the Bill will ultimately take in its passage through Parliament.

SIR DOUGLAS HAIG, Commander-in-Chief of the British Forces in France, has been elected rector of St. Andrews University, in succession to Lord Aberdeen.

ACCORDING to the *Nieuwe Courant*, the number of women students in the German universities during the last summer semester was 5460, or double the number of 1911. The women now represent 10.5 per cent. of matriculated students, as against 4.8 per cent. in 1911. Of the students actually present in the universities (*i.e.* outside the Army), the women now form one-third. The number of women medical students is now 1394, as against 582 in 1911. In this way the losses caused by the war will to some extent be repaired, for the first 600 German casualty lists contain 1500 names of medical men.

THE Institution scholarship of the North-East Coast Institution of Engineers and Shipbuilders for the present year has been awarded to E. V. Telfer. The council of the institution, believing that the time has arrived for making the subjects of the scholarship examination of the institution more comprehensive than hitherto, has decided that the syllabus of future examinations shall be:—(1) English; (2) English history and geography; (3) Latin, Greek, French, or German (one of the four); (4) extra mathematics; (5) and (6) either experimental science and mechanics, or any two of the following:—Chemistry, physics, mechanics.

A COMMITTEE was appointed at the Newcastle meeting of the British Association to report upon the method and substance of science teaching in secondary schools, with particular reference to the place of such instruction in general education. The following resolution was adopted by the committee at a meeting held on October 18:—"That in order to secure freedom of action for teachers of science in schools, and

to prevent the instruction from becoming stereotyped, it is undesirable for any external authority to prescribe a detailed syllabus in science for use in schools, whether intended as the basis of examinations or otherwise."

In his recent presidential address to the Institution of Automobile Engineers Mr. L. A. Legros dealt, among other topics, with the part science might with advantage take in the education of our governing classes. He spoke of the deplorable ignorance of technical and scientific matters among those on whom the responsibilities for running the war have fallen. Never, he said, in the history of engineering has the ignorance of science by the politicians, the military, and the other authorities been so openly displayed as in the early stages of the war, and never has it proved so costly in time, in life, and in substance. The views of teachers brought up on classical lines are, he maintained, devoid of that perspective which would enable them to realise that for the majority of their pupils the dead languages are useless except as a discipline or gymnastic which can be provided as efficiently in the course of work which is really useful to them. A knowledge of the classics is undoubtedly of value to men of the clerical, legal, literary, and even of the medical professions, but, Mr. Legros urged, how much greater would have been the value, in this war, of that small section which deals with politics had it been as well grounded in the sciences as in the dead languages?

MR. M. S. PEASE has sent us from Ruhleben a copy of the prospectus of work for the autumn term at the Ruhleben Camp School. It would be difficult to provide more convincing proof of the hope for the future which inspires our countrymen at Ruhleben and of the courage and initiative of these prisoners there than the arrangements they have made for study and self-improvement. The camp school is in charge of a businesslike general committee, which has discovered in the camp teachers of nearly every conceivable subject, means for arranging and equipping laboratories for practical work, for starting a good library, and for holding examinations in connection with the home examining authorities. The prospectus is able to print the proud boast that "in most subjects the tuition provided by the school ranges from that required by absolute beginners to that required by advanced university students." We can refer here only to some of the numerous departments, and mention may be made of those for biological sciences, mathematics and physics, chemistry, engineering, and nautical subjects. In zoology, for example, courses are being given in vertebrate embryology, and in the study of the Echinodermata; in botany the Gymnospermæ are being studied, with laboratory work; all branches of pure mathematics, including, for instance, infinitesimal calculus and differential equations, are being taught; lectures and laboratory work are available in all branches of chemistry; and every branch of engineering is catered for. No saner way of relieving the awful tedium of prison camp life could be found than the classes and circles for study which have been provided by the Ruhleben Camp Committee.

In Scotland for some time it has been possible for young men to obtain engineering training by attending during the winter classes in the universities, and by getting works experience in the summer. This plan suits Scotland, where the university session is condensed and there is a long interval between the closing of the university and its reopening. In England the university session is distributed more evenly throughout the year, and Dr. Wertheimer, the dean of the faculty of engineering of the University of Bristol, has,

therefore, proposed a modified "sandwich" system of training. A student on leaving school will enter the university and will spend a session there, passing the intermediate examination for the B.Sc. degree in engineering at the end; if his record is good, and he is a promising student, he will be recommended to a firm which will allow him to enter its works for a period of fourteen months. This will enable the student to judge to what extent he is fitted for an engineering career, and will also enable the manufacturers to form an impression as to his suitability. He will then return to the university and continue his studies for a further period of two years, in some cases spending the long vacation in the works; after that he will return to the same works, if he has given satisfaction, for another period of fourteen months. A number of firms have already agreed to take part in the experiment, so that a satisfactory trial is assured. The "sandwich" scheme, besides providing an improved method of engineering training, will also, it is hoped, bring the important firms which are taking part in it into closer touch with the University, and thus lead to more co-operation in research and other matters.

### SOCIETIES AND ACADEMIES.

#### MANCHESTER.

**Literary and Philosophical Society**, October 3.—Prof. S. J. Hickson, president, in the chair.—Prof. F. E. Weiss, Sir E. Rutherford, W. Thomson, and Dr. G. Hickling: The discussions at the Newcastle meeting of the British Association.

October 17.—Prof. S. J. Hickson, president, in the chair.—Prof. W. H. Lang: *Rhynia Gwynne-Vaughani*, Kidston and Lang, a new type of vascular cryptogam from the Old Red Sandstone of Rhynie, Aberdeenshire. The chert in which the plant occurs was discovered by Dr. Mackie, of Elgin, and the plant remains are being studied by Dr. R. Kidston and Prof. W. H. Lang, the results being published by the Royal Society of Edinburgh. Photographic slides showed the underground rhizomes attached to the peaty soil by rhizoids, the branched cylindrical aerial stems, which were leafless, and the large cylindrical sporangia. The internal structure is well preserved, so that our knowledge of this ancient land plant is pretty complete. *Rhynia* differs so much from other vascular cryptogams that a new class, the Psilophytales, has been founded to contain it.

#### PARIS.

**Academy of Sciences**, October 9.—M. Camille Jordan in the chair.—P. Puiseux: The physical libration of the moon, studied on forty photographs obtained at the Paris Observatory between the years 1894 and 1909. The method of measurement and calculation employed is fully described, and the conclusion is drawn that the theory of the movement of the moon round its centre of gravity, established by considering the satellite as an indeformable body, does not correspond with the facts.—D. Eydoux: The transmission of strokes of a hydraulic ram in pipes with bifurcations.—F. Houssay: The sound of distant cannonades. The complexity of the question. A description of observations made at Sceaux. Heavy cannonades can be heard at distances at which single cannon-shots cannot be detected; there would appear to be a summation effect.—M. de Broglie: On a system of absorption bands corresponding to the L-rays of X-ray spectra of the elements, and on the importance of the phenomena of selective absorption in radiography. Commenting on a recent communication by M. Boll and L. Mallet, the author agrees that the radiations emitted by a Coolidge

tube are as heterogeneous as those given by other bulbs, and give a relatively complex spectrum. Filtration through a non-selective screen, such as aluminium, may be made to give a roughly monochromatic beam. From a discussion of the action on a silver bromide emulsion, it is shown that a practically monochromatic radiation can be obtained by interposing a selective screen containing a substance (cadmium, antimony) with an atomic weight slightly higher than that of silver.—P. Nicolardot: The action of reagents upon French, Bohemian, and German glassware. Glassware for chemical purposes is now made by several firms in France. Some of these glasses have been submitted to the attack of various chemical reagents (water, solutions of hydrochloric acid, ammonia, ammonium chloride, sodium carbonate), comparative tests being carried out under the same conditions with Jena glass, two Bohemian and two Thuringian glasses. The French glasses proved to be equal to the best German glasses. Comparative tests were also carried out on the resistance of the glasses to sudden changes of temperature and to the action of water at temperatures up to 160° C. Complete analyses of the French, Jena, and Bohemian glasses used are given.—A. Pictet, L. Ramseyer, and O. Kaiser: Some hydrocarbons contained in coal. A soft Sarre coal was extracted on the large scale (five and a half tons) with benzene. From the extraction product (0.25 per cent. of the coal) seven unsaturated and seven saturated hydrocarbons were isolated. These have been compared with the hydrocarbons obtained by the distillation of coal at 450° C. in a vacuum, and it is shown that a part, at least, of the hydrocarbons of the vacuum tar exist as such in the coal. The extracted material proved to be optically active, although no fraction from the vacuum tar possessed this property. Hence it would appear that a temperature of 450° is sufficient to racemise the volatile active substances contained in coal. This furnishes a proof that the materials from which the coal has been formed have never been carried to that temperature.—R. Masse and H. Leroux: The estimation of phenol in crude tar phenols. The process suggested consists of a preliminary fractional distillation, followed by a determination of the melting point.—J. Bongault: The semicarbazones of  $\alpha$ -ketonic acids. The  $\alpha$ -iodocinnamic acids.—G. Barthelat: The structure of the floral pedicel of *Mesembryanthemum*.—M. Mirande: The cytological formation of anthocyanin in the living plant.—M. Mollard: The disengagement of oxygen arising from the reduction of nitrates by green plants.—Em. Bourquelot: Remarks on the rotatory powers of the  $\alpha$ - and  $\beta$ -alcohol-*d*-glucosides and alcohol-*d*-galactosides.—J. Legendre: The destruction of mosquitoes by fish. It has been proved that the Chinese carp (*Carassius auratus*) flourishes when introduced into the rice plantations of Madagascar, devouring the larvæ of the mosquito in large numbers, thus helping to reduce malaria.—A. Lumière: The presence of the tetanus bacillus at the surface of projectiles buried in cicatrised wounds.

### BOOKS RECEIVED.

Dyeing in Germany and America, with Notes on Colour Production. By S. H. Higgins. Second edition. Pp. viii+143. (Manchester: University Press; London: Longmans and Co.) 5s. net.

Philips' Planisphere showing the Principal Stars Visible for Every Hour in the Year. (London: G. Philip and Son, Ltd.) 1s. 6d. net.

A Text-Book of Quantitative Chemical Analysis. By Drs. A. C. Cumming and S. A. Kay. Second edition. Pp. xv+402. (London: Gurney and Jackson; Edinburgh: Oliver and Boyd.) 9s. net.