

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

THE annual meeting of the Association of Technical Institutions will be held at the Skinners' Hall, London, on Friday, January 31, 1902. The Right Hon. Sir William Hart Dyke, M.P., will be in the chair, and an address will be delivered by the president-elect, Lord Avebury.

MR. WALTER PALMER, M.P., has offered the University of London the sum of 2000*l.* to provide the apparatus required for the proposed post-graduate courses of lectures in physiology. A committee has been appointed to consider the details of the scheme.

THE system of secondary education in Italy forms the subject of criticism at the hands of Prof. Amati Amato, writing in the *Lombardy Rendiconti*, xxxiv. 17. The author regrets that from 1894 to the present time statistical data are very meagre, and it is desirable that a volume should be annually issued showing the number of schools of different grades and their total attendances. The data available for the period up to 1894 are more detailed, and show a marked increase in schools under clerical control and a decrease in those under lay management, and reasons are given for believing that the tendency continues to be in the same direction.

A DEPUTATION representing a number of University colleges waited on the Chancellor of the Exchequer on Friday last in order to place before him reasons why the annual Government grant to these institutions should be increased. In connection with this subject the facts given on p. 175 of this issue are of interest. The grounds upon which the application was made were summarised as follows:—The grant was originally placed upon the Estimates in the year 1889–90, the total amount being 15,000*l.*, apportioned among eleven colleges. An additional grant of 500*l.* was subsequently made to University College, Dundee. In 1897 the grant was increased to 25,000*l.*, which was distributed among twelve colleges. Since then the work of the University colleges has grown in importance and magnitude. New departments have been created, and probably in all the colleges important additions have been made to the teaching staff, together with a largely increased provision of appliances and equipment. In the year 1892 a Treasury committee reported in favour of a total grant of 30,000*l.* being made to the University colleges, a sum in excess by 5000*l.* of that which is at the present time distributed among them. In 1897 new colleges at Reading and Exeter were inspected by a Treasury committee appointed to visit University colleges, and declared at that time not to have reached such a standard in University work as to justify a claim upon a share in the grant. These colleges, together with another, have been again visited by a similar committee, and if by this time they are reported to have reached a standard which justifies their claim to be treated as fully equipped colleges, in arts and science some decrease in the grants to other colleges would have to be made unless the total of 25,000*l.* is increased. Replying to the deputation, the Chancellor of the Exchequer said that there was no liability on the part of the Exchequer for University education in England, and declared that this was a doctrine which had always been accepted by Governments and by Parliament. The grant made in 1892 was a purely temporary measure, and did not imply any assumption of liability on the part of the Exchequer. It was only to be regarded as an attempt to aid local effort in places in which there was a strong desire for University education. The experience of the last five years had shown that the grant had had the effect of stimulating local effort. He would carefully consider the whole question; but, while he must decline to pledge himself to any increase of the present grant, he would do his best to prevent any loss falling on the colleges which were now in receipt of it by the admission of new colleges to its benefits.

SCIENTIFIC SERIAL.

American Journal of Science, December.—The geology of the Little Colorado Valley, by Lester F. Ward. The paper is accompanied by a section showing 3500 feet of Trias, of which 1200 are Painted Desert beds, 1600 Shinarump beds, and 700 Moencopie beds.—On pyrite and marcasite, by H. N. Stokes. It is pointed out that although there is no difficulty in distinguishing these two minerals in well-crystallised specimens, there remains a residuum consisting of massive or finely grained material in which this is not possible. The methods which

have been proposed for such cases are criticised and found to be insufficient. A method has therefore been developed in which advantage is taken of the difference between the two sulphides in their behaviour towards solutions of ferric ammonia alum, and it has been found possible to apply this to determine the amount of each in mixtures. The application of this process to various samples of doubtful nature, especially of concretions, has shown that the finely fibrous specimens usually passing as marcasite are very commonly pyrite.—Studies of Eocene mammalia in the Marsh collection, Peabody Museum, by J. L. Wortman.—The dielectric constant of paraffin, W. G. Wormwell. Four samples of commercial paraffin were examined with a modified form of the Blondlot oscillator, the refractive index for the D line of the samples being also determined. The dielectric constant of a given paraffin increases with the density of the paraffin. It augments rapidly from a temperature 20° above the melting-point to a temperature 30° below the melting-point, and among different paraffins the dielectric constant increases with a rise in the melting-point. A comparison of the results for short electrical waves and short light waves shows that Cauchy's formula as a means of obtaining the index of refraction for indefinitely long waves does not meet the experimental data.—On some new mineral occurrences in Canada, by G. C. Hoffman.—The estimation of molybdic acid reduced by hydriodic acid, by F. A. Gooch and O. S. Pulman, jun. The conditions under which molybdic acid may be accurately determined by reduction with potassium iodide and hydrochloric acid are here laid down, and test analyses showing the accuracy of the method are cited.—The Veramin meteorite, by H. A. Ward. The meteorite consisted of an intimate mixture of metal and mineral, in roughly equal proportions. Analysis of the metallic portion is given.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, December 5.—"Notes on Quantitative Spectra of Beryllium." By Prof. W. N. Hartley, D.Sc., F.R.S.

In a quantitative examination made in 1885 of all the known methods of separating beryllium from aluminium and from iron the various precipitates obtained were dissolved and diluted to a known volume corresponding with the amount of bases in solution.

The solutions were spectrographically examined, and the photographs compared with others taken from solutions containing accurately weighed quantities of pure beryllia. Wave-lengths of lines shown by solutions containing 0.000001 per cent. of beryllium: 3322.3 extinct, 3130.3 nearly one-half the line still strong, 2649.8 reduced to a dot, 2493.6 a dot scarcely visible, 2478.1 a very fine short line.

The actual length of the line 2478.1, as rendered by solutions of 0.00001 per cent. and 0.000001 per cent. strength, is, in the former, 0.07, and, in the latter, 0.05 of an inch. The normal length of the line at this part of the spectrum is 0.22 of an inch. The quantity of substance yielding this spectrum is equivalent to one-millionth of a milligramme of beryllium. The coefficient of extinction of the two lines $\lambda\lambda 3130.3$ and 2478.1 had not been reached by the dilution specified.

Beryllia has been separated from the alumina contained in felspar obtained from a granite found in co. Wicklow. From numerous experiments on the analytical processes employed in the separation of beryllia from alumina it was found that it remained combined with the sesquioxide bases in so persistent a manner as to lead to the belief that ordinary alumina might be found more often than not to contain traces of beryllia. Such, however, is not the case, though gallium has been ascertained to be present in almost all minerals which contain aluminium. As they belong to the same group, the two elements aluminium and gallium may be expected to form isomorphous mixtures, which would account for their being so constantly associated in nature; but the position of beryllium in the periodic system of classification shows that a similar behaviour with that element is scarcely probable.

Geological Society, December 4.—Mr. J. J. H. Teall, V.P.R.S., president, in the chair.—On a new genus belonging to the *Lepiditidæ*, from the Cambrian Shales of Malvern, by Prof. T. T. Groom. Forms referred to *Beyrichia* have long been known from the Cambrian beds of Scandinavia, Stockingford and South Wales, and the writer has obtained from the