AMONG the names of the distinguished persons upon whom the University of Birmingham has decided to confer the honorary degree of Doctor of Laws by way of commemorating the recent Royal visit, we notice the following:—Mr. W. N. Atkinson, H.M. Superintendent Inspector of Mines, South Wales; the president of the Royal College of Surgeons; Sir William Crookes, F.R.S.; Mr. Maurice P. Fitzmaurice, C.M.G., chief engineer to the London County Council; Sir Archibald Geikie, K.C.B., P.R.S.; Mr. Haldane, F.R.S.; Dr. J. S. Haldane, F.R.S., reader in physiology at the University of Oxford; Sir A. B. W. Kennedy, F.R.S.; Sir Joseph Larmor, F.R.S., Lucasian professor of mathematics in the University of Cambridge; Sir R. D. Powell; Sir William Ramsay, K.C.B., F.R.S.; Lord Rayleigh, F.R.S.; Prof. E. Rutherford, F.R.S., professor of physics in the University of Manchester; Prof. Silvanus P. Thompson, F.R.S.; Dr. W. A. Tilden, F.R.S.; Sir J. J. Thomson, F.R.S.; Mr. C. S. Tomes, F.R.S.; Dr. T. Herbert Warren, Vice-Chancellor of Oxford University; and Dr. B. C. A. Windle, F.R.S., president of Queen's College, Cork. The degrees are to be conferred on October 20.

THE calendar for the session 1909–10 of the Manchester Municipal School of Technology shows how thoroughly the education committee of the city has, by the courses of instruction sanctioned in the school, met the requirements of the industries of south-east Lancashire, of which Manchester is the commercial centre. A prefatory statement to the calendar points out that the object of the school is to provide instruction and training in the principles of science in their application to the industrial arts, with the view of a right understanding of the foundations upon which these arts rest, and to promote their effective development. The essential aim of the instruction is the training of faculty through a systematic course of sound theoretical study, and the development of resourcefulness and habits of self-reliance by means of an exact, thorough, and progressive course of laboratory and shop work, so as to prepare the student after due experience for positions of responsibility. Courses of three years' duration have been arranged, for day students of sixteen years of age and upwards, in each of the following branches of technology:—mechanical engineering; electrical engineering and technical physics; municipal and sanitary engineering; applied chemistry in each of the six aspects—general chemical technology, chemistry of textiles, manufacture of paper, metallurgy and assaying, brewing, and electrochemistry; manufacture of textiles; photography and the printing crafts; and architecture and the building trades. It is interesting, in view of the distinguished success with which the work of the school has been crowned, to direct attention to the fact that the subcommittee which administers the school consists of three classes of members, viz. representatives from the city council, members representative of educational and other institutions of various grades, and co-opted members consisting of men distinguished in the district for their knowledge of manufactures or science.

ATTENTION has often been directed in these columns to the amount of State aid provided for the purposes of university and other higher education in this country. It has been pointed out repeatedly that the financial assistance forthcoming from the Treasury in this direction compares very unfavourably with the sums of money provided for similar purposes by the Governments of other great countries. An examination of the Civil Services Estimates for the past eleven years shows, however, that there has been a steady increase year by year in the annual amounts voted by Parliament for higher education. The total amount for this purpose for the financial year 1899–1900 was 108,338*l.*, made up as follows:—universities and university colleges of Great Britain, 85,000*l.*; the Royal College of Science, London, 18,388*l.*; and Queen's Colleges in Ireland, 4950*l.* In 1905–6 the total amount had increased to 201,773*l.*, allocated thus:—universities and university colleges of Great Britain, 174,000*l.*; the Royal College of Science, London, 22,723*l.*; and the Queen's Colleges in Ireland, 5050*l.* For the present year the total amount has grown to 215,700*l.*, the items under the respective headings being 191,000*l.*, 20,000*l.*, and 4700*l.* The grant in aid of *Scottish* universities (included under Great Britain) is 42,000*l.*, which is in addition to an annual sum of 30,000*l.* payable to these universities from the Local Taxation (Scottish) Account. The local education authorities in England and Wales give grants amounting to about 100,000*l.* annually to universities and university colleges. It may be said, therefore, that roughly the State grants in aid of universities and colleges in Great Britain amount now to nearly 220,000*l.* annually, and the local taxation grants to about 130,000*l.*, making an annual sum of about 350,000*l.* It is instructive to point out in connection with the amount thus arrived at that the total for grants in respect of public elementary schools in England and Wales in connection with the Board of Education amounts for the present year to 11,162,405*l.*, and that 555,000*l.* is paid for the training of teachers, 791,800*l.* to secondary schools, and 537,505*l.* in connection with technical institutions, schools of art, and evening schools.

IN an article on the position of higher education published in the issue of NATURE for July 22 (vol. lxxxi., p. 113), attention was directed to an article by Prof. Guido H. Marx on the remarkable growth and spread of interest in higher education in various countries. The opportunity was taken on that occasion to point out that Prof. Marx's figures, so far as the numbers of students in institutions of university standing in Great Britain are concerned, were not quite trustworthy. Referring to this article by Prof. G. H. Marx, Prof. B. Menschutkin, of St. Petersburg, writes to correct the statistics given in respect of Russia. He says:—"The statistics with regard to Russia (23,000 students) are very antiquated. This number of students was reached some fifteen years ago, but at present the students of the higher colleges number at least about 77,000, as can be seen from the following data, showing how many students there were in the different institutions in 1908 (in some cases, as for St. Petersburg, the numbers refer to the present year):—

St. Petersburg (University 9800, Academy of Law 350, Philological Institute 150, Medical Academy 800, Technological Institute 2000, Polytechnik Institute 4200, Institute of Ways of Communication 1200, Institute for Engineers 700, Electrotechnical Institute 650, Mining Institute 650, Institute of Forestry 550, the three higher colleges for women 6000, Lyceum and three Military and two Nautical Academies 1200, Academy of Theology 300), 28,550; *Moscow* (University 9000, Institute of Oriental Languages 150, Academy of Theology 200, Technical Institute 2500, Agricultural Institute 850, Engineering Institute 550), 13,250; *Kharkov* (University 5300, Technological Institute 1200, Veterinary Institute 500), 7000; *Kiev* (University 3200, Academy of Theology 200, Polytechnic Institute 2500), 5900; *Kazan* (University 3000, Academy of Theology 170, Veterinary Institute 430), 3600; *Tomsk* (University 800, Technological Institute 1900), 2700; *Warsaw* (University and Polytechnic Institute), 1500; *Odessa* (University), 3300; *Novocherkask* (Polytechnic Institute), 700; *Yuryev* (Dorpat) (University 3000, Veterinary Institute 350), 3350; *Helsingfors* (University 2400, Technical College 350), 2750; *Riga* (Polytechnicum), 1700; *Novaya Alexandria* (Agricultural Institute), 400; *Yaroslavl* (Lyceum), 1050; *Yekaterinoslav* (Mining Institute), 500; *Nèžin* (Philological Institute), 150; *Saratov* (University, established this year), 200; *Vladivostok* (Institute of Oriental Languages), 300. The total number is therefore 76,900. There are also many *private* higher colleges in different towns, the number of students of which it was impossible to ascertain; it is surmised that this number is about 20,000."

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, August 30.—M. Bouchard in the chair.—The improvement of the theory of partial equations of the first order: N. **Saltykow.**—A demonstration of the phase rule: M. **Boulouch.** A criticism of the demonstration of the phase rule by M. Müller, in which

thermodynamical considerations are excluded. The author regards some of M. Müller's assumptions as unjustifiable.—The hydrolytic dissociation of bismuth iodide: René **Dubrisay.** The effects of temperature and dilution have been studied. Two oxyiodides have been shown to exist, the red compound being BiOI; the second black oxyiodide gives a ratio of bismuth to iodine corresponding to $Bi_2O_3 : 5HI$.—A simplified method and apparatus for determining the calorific power of gaseous combustibles: P. **Lemoult.** The method is based on the fact that the combustion of molecular proportions of hydrogen and oxygen or carbon monoxide and oxygen gives nearly the same heat evolution, and after absorption of carbon dioxide formed in the latter case, the contractions are the same. If carbon monoxide, hydrogen and methane are present, the contraction (*a*) after combustion and absorption of CO_2 is measured, and also the oxygen consumed (*b*). The approximate calorific value is $P = 0{\cdot}914a + 3{\cdot}405b$.—The pseudopolychroïsm of sphærolites: Paul **Gaubert.**—The extension and retrogression of the virgin forest of tropical Africa: Aug. **Chevalier.**—The Mesoplodon of la-Hougue (November 2, 1908): R. **Anthony.**—The proof of experimental ammoniuria in epilepsy: J. E. **Florence** and P. **Clément.** Ammonium acetate, administered in 4-gram to 6-gram doses, is in healthy individuals excreted mainly as urea. In epileptics under the influence of bromides the method of elimination is similar; in epileptics not under bromide treatment a marked elimination of ammonia coincides with the very frequent attacks.—Alcoholic fermentation in presence of sulphurous acid: P. **Martinand.**—The specificity of oxydases: J. **Wolff.**

New South Wales.

Royal Society, June 2.—Mr. H. D. Walsh, president, in the chair.—A pitchblende probably occurring in New South Wales: T. H. **Laby.**—The viscosity of water: R. **Hosking.**—A contribution to the experimental study of the large ions in the air: S. G. **Lusby.**—The mobility of the large ions in the air: Prof. J. A. **Pollock.**—"Lope de Vega": L. **Hargrave.**—Note on the determination of the free acid in superphosphates: F. B. **Guthrie** and A. A. **Ramsay.**

July 7.—Mr. H. D. Walsh, president, in the chair.—Description of a new hæmoprotozoa from birds in N.S. Wales: Dr. J. B. **Cleland** and T. H. **Johnston.**—A new melanin-producing hæmatozoon from an Australian tortoise: T. H. **Johnston** and Dr. J. B. **Cleland.**—A new reptilian cestode: T. H. **Johnston.**—The discrepancy between the results obtained by experiments in manuring, &c., in pots and in the field: L. **Cohen.**

Linnean Society, July 28.—Mr. C. Hedley, president, in the chair.—New Australian Lepidoptera belonging to the family Noctuidæ: Dr. A. J. **Turner.** One genus, and twenty-five species referable to twenty-two genera, are described as new, and new habitats are recorded for a number of species previously known.—Notes from the botanic gardens, No. 14: J. H. **Maiden** and E. **Betche.** Three species, referable to the genera Halorrhagis, Bæckea, and Olearia, are described as new; *Rutidosis leiolepsis*, F. v. M., *Ageratum conyzoides*, L., *Prunella vulgaris*, L., var. *laciniata*, Benth., *Gleichenia flagellaris*, Spreng., *Angiopteris erecta*, Hoffm., and *Cassytha filiformis*, L., are recorded as new for New South Wales; it is suggested that *Acacia Dorothea*, Maiden, should be transferred from the Uninerves to the Julifloræ; and notes on, or new records for, certain rare or interesting plants are appended.—Studies of the life-histories of Australian Odonata. No. 2. The life-history of *Diphlebia lestoïdes*, Selys: R. J. **Tillyard.** The genus Diphlebia contains the only Australian representatives of the family Calopterygidæ. The discovery of the larva is of great importance to ontogenists. The ova were found in the tissue of water-weed one foot below water, the female having deposited them by descending the reed under protection of an air-film. Larvæ were successfully hatched out in October, and some of them were kept until March. In November four exuviæ were found clinging to rocks in the stream-bed of the Rodriguez Pass, at Blackheath. The larva is of most remarkable form, quite unlike any other calopterygid larva known, and having some points in common with agrionid larvæ. It must be regarded, not as a synthetic type, but as a highly specialised and successful development from the main calopterygid stock, such development having taken place on lines parallel to that of the agrionid type.—Some hæmogregarines from Australian reptiles: T. H. **Johnston.** Four Australian species of Hæmogregarina have been described. Three additional species, from snakes or from a tortoise (Chelodina), are described as new, and some observations on *H. shattocki*, Samb. and Seligm., are offered.—The influence of the dilution of serum upon the phagocytic index: Dr. R. **Greig-Smith.** Several factors have each an influence in modifying the nature of the curve representing the opsonic and phagocytic effects obtained upon progressively diluting normal serum. It would be possible to obtain the phagocytic indices so that their ratios lie upon a straight line, by using a 1·0 per cent. to 1·1 per cent. solution of sodium chloride for making the dilutions and suspensions. With weaker strengths of normal saline the curve rises above, and with increased strengths it falls below, the straight line. The thickness of the bacterial suspension, the nature of the phagocytes, and the time of incubation influence the results, and have to be taken into account.

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