

it is unfortunately true that much money is needed to make up for the neglect of university teaching in London in the past. Though the increase in the Government grant to university colleges will be of great value, the equipment of both University and King's Colleges needs improvement, and the salaries of the professors are quite inadequate. The whole question of retiring pensions, to which a private donor has just devoted 2,000,000*l.* in America, is untouched in London.

After the presentation for degrees at the University of London, there was a reception at Bedford College. The occasion is always one for the assembling of the friends of the higher education of women in London, and about five hundred guests were received by the principal, Mrs. James Bryce, and Mrs. Leonard Darwin. The students who were presented at the university included eight for science degrees. The college authorities are contemplating a great re-building scheme, for the lease of the present premises in Baker Street is almost on the point of expiring, and an appeal is being made for a quarter of a million sterling, of which 100,000*l.* would be devoted to endowing a college capable of accommodating five hundred students.

Lord Londonderry, in his speech at the annual dinner of the Institution of Mining and Metallurgy, referred to the work of the committee appointed by the Government to consider the coordination of the Royal College of Science at South Kensington with other institutions for higher scientific and technological instruction in London. An interim report has been presented by the committee. The Government has definitely informed the committee that, provided satisfactory arrangements can be arrived at for the due coordination of the work of the various higher scientific teaching institutions in London and elsewhere, and provided that guarantees are obtained for the adequate management of what will practically be a congeries of highly organised technical courses, and for the provision of a thoroughly satisfactory annual income for the upkeep of a great centre for this higher work, the Government is prepared to entrust the management of the Royal College of Science, including the Royal School of Mines, to a committee to be newly established for the purpose. This procedure, it is expected, will bring the work of the Royal College and School of Mines into the closest possible relations with that of the other higher teaching institutions, so that a higher degree of cooperation and coordination may be attained in this important portion of the educational field. Lord Londonderry announced that he has good grounds for believing that the Chancellor of the Exchequer has been considering the financial aspect of the new condition of things that will be brought about in regard to the Royal College of Science if the changes outlined actually take effect, and that a reasonable increase in the sums at present annually devoted towards the expenses of the Royal College of Science will be made. Thus the Royal College, in its immensely enhanced possibilities of usefulness owing to its large new buildings, will be able to bring to the common aim, not only its fabric and its excellent equipment, and, of course, its good will and prestige, but also a satisfactory annual income as a substantial contribution to what must be the heavy annual expenditure involved in the great work to be carried on for higher scientific and technological education in the metropolis.

As Mr. Haldane, the chairman of the committee referred to by Lord Londonderry, said on the same occasion, there is now a prospect of the establishment of such a school of mining and metallurgy as will make London the first city of the Empire in point of education in these matters.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—Some five or six years ago a special committee was called together at Cambridge, and an effort was made to obtain the cooperation of the colleges and the town and county councils in a scheme for the improvement of the milk supply of Cambridge. The committee had as its primary object the eradication of tuberculosis, beginning with bovine tuberculosis, from the county of

Cambridge. Concurrently it took up the question of the housing of cattle, the sterilisation of milk, the methods of storage and distribution of milk, and the question of what milk should be refused by the colleges and by private purchasers. All these points were considered, not only with regard to tuberculosis, but also in connection with other infectious diseases, *e.g.* diphtheria, scarlet fever, and typhoid fever. The Cambridge Town Council undertook to pay the expenses of a veterinary surgeon, and the following colleges undertook to consider the matter favourably, and in most cases offered a certain annual subvention:—Gonville and Caius, Trinity Hall, King's, Christ's, Sidney, Emmanuel, Downing, and Girton, but the larger colleges stood out, and the scheme fell through.

Prof. Woodhead, in an interesting article in the *Cambridge Review* of last week, raises the question whether some such scheme should not be revived, and points to the recent outbreak of scarlet fever, which was especially prevalent in one or two colleges, as an instance of a disease which might easily have been avoided if the community had taken proper precautions.

It is proposed to erect a building containing examination rooms on a site on the north-east corner of the museum grounds. At present the university is put to great cost in hiring rooms which, apart from their expense, are not well adapted for examinations. The syndicate appointed to consider this question estimates that for a sum of 7500*l.* it could provide for all examinations held in the university throughout the year, except, perhaps, for a week or two in June and December.

The Vice-Chancellor announces the generous offer of the Drapers' Company to find the sum of 5000*l.* towards the cost of a building for the department of agriculture provided that a further sum of 5000*l.* is raised by voluntary subscriptions by the end of the current year.

The long vacation course in pathology, public health, and pharmacology will begin on Monday, July 3. Special courses of lectures have been arranged on phagocytosis, by Prof. Woodhead, with the assistance of Mr. W. Malden; on illness caused by unsound food, by Mr. H. E. Durham; on diphtheria, agglutinins, precipitins and hæmolytins, by Mr. G. S. Graham-Smith; and on protozoa and protozoal diseases, by Dr. Nuttall. Further information about these courses may be obtained by writing to Prof. Woodhead, The Museums, Cambridge.

Special courses on physiology, osteology, human anatomy, and histology will be given during the long vacation by Mr. Barcroft and Mr. Cole, Dr. Barclay-Smith, Dr. A. Hill, and Mr. Manners-Smith. These will begin on July 5.

THE jubilee of Cheltenham Ladies' College was celebrated on Saturday last, and a new science wing was declared open. The new laboratories and lecture-rooms have been erected at a cost of 18,000*l.*, and include rooms well equipped for the teaching of physics, chemistry, and botany.

THE following resolution was carried at a meeting of the council of the Royal College of Surgeons of England, held on Thursday last:—"That it be referred to the Committee of Management to consider and report as to the desirability of treating chemistry, physics, and biology as subjects of preliminary education, and of requiring that an examination in them should be passed before the recognition of the commencement of medical studies, and to report further as to the desirability of the two colleges approaching the Universities and other examining bodies with the view of adopting a five years' curriculum of professional study from the date of passing the Preliminary Science Examination."

AN entrance scholarship in science, value 48*l.* for three years, will be awarded by the council of Bedford College for Women (University of London) on the result of an examination to be held June 28-30. Full particulars can be obtained from the principal, and forms of entry must be received by June 12. The council, on the recommendation of the Reid trustees, will award the Reid fellowship in June to a graduate of the University of London who is also an associate of Bedford College. Applications should

be received by the hon. secretary of the Reid trustees by May 30. Miss Alice Ravenhill is to begin a course of lectures on May 18, at 4.30 p.m., on the "Teaching of Hygiene."

SOCIETIES AND ACADEMIES.

LONDON.

Chemical Society, May 4.—Prof. R. Meldola, F.R.S., president, in the chair.—Notes on sodium alum: J. M. Wadmore. The author has confirmed the observations of Augé, Zellner, and Dumont as to the existence and certain of the properties of sodium alum.—Camphoryl-*pseudo*-semicarbazide: M. O. Forster and H. E. Fierz. This compound was obtained by reducing camphorylnitroso-*pseudo*-carbamide with zinc dust in dilute acetic acid; it condenses readily with aldehydes and ketones, yielding products characterised by high specific rotatory powers.—Some derivatives of anhydracetonebenzil: F. R. Japp and J. Knox. Descriptions of the condensation products of benzil with certain unsaturated ketones are given.—The dihydrocyanides of benzil and phenanthraquinone, part ii.: F. R. Japp and J. Knox.—A condensation product of mandelonitrile: F. R. Japp and J. Knox. It is shown that Minovici's compound, $C_{16}H_{12}ON_2$ (Ber., 1899, xxxii., 2206), obtained by saturating mandelonitrile in dry ether with hydrogen chloride, is identical with the substance obtained by Japp and Miller by the action of hydrogen chloride on a solution of benzil in alcoholic hydrocyanic acid (Trans. Chem. Soc., 1887, li., 29).—Action of hydrazine on unsaturated γ -diketones: F. R. Japp and J. Wood. The authors have used Paal and Schulze's reaction to distinguish the configurations of certain analogous unsaturated diketones. By this means they have obtained confirmatory evidence for the configuration assigned by Japp and Klingemann to the two modifications of $\alpha\beta$ -dibenzoylstyrene and of dibenzoylstilbene.—The synthesis of substances allied to adrenaline: H. D. Dakin. —Methylation of *p*-aminobenzoic acid by means of methyl sulphate: J. Johnston.—The atomic weight of nitrogen: R. W. Gray. By the examination of (1) the relative densities and compressibilities of nitric oxide and oxygen, and (2) the decomposition of nitric oxide with finely divided nickel, a mean value of 14.006 (which is regarded as possibly too low) was found for this constant.—The methylation of gallotannic acid: O. Rosenheim. A pentamethyl-derivative was obtained, by methylation with methyl sulphate, and this on hydrolysis furnished a mixture of trimethyl- and dimethyl-gallic acids.—The interaction of hydrogen sulphide and sulphur dioxide: W. R. Lang and C. Carson. An investigation of Wackenroder's solution showed that the action of hydrogen sulphide produces first sulphur and water, and that by the further action of sulphur dioxide on sulphur polythionic acids are produced.—The formula of cyanomaclurin: A. G. Perkin. It is now found that the formula $C_{15}H_{12}O_8$ is to be preferred in place of $C_{15}H_{14}O_8$ formerly used.

PARIS.

Academy of Sciences, May 8.—M. Troost in the chair.—The increase of the rotatory power of fatty molecules in passing to the state of cyclic compounds: A. Haller and M. Desfontaines. A comparison is given of the rotatory powers of alkyl esters of β -methyladipic acid with the esters of the corresponding β -cyclopentanecarboxylic acids, the rotations of the latter being found to be about thirty times those of the former. The densities and boiling points of the various esters under examination are also given.—On a new synthesis of oxalic acid: H. Moissan. It has been shown in a previous paper that whilst perfectly dry carbonic acid is without any action upon potassium hydride, in the presence of a minute trace of water the two substances react with the quantitative formation of potassium formate. It is now shown that if this reaction is allowed to take place at a higher temperature, 80° C., a mixture of potassium formate and oxalate is produced. The oxalic acid formed was separated, and its identity proved by analysis and numerous reactions.—Endoglobular pseudo-hematozoa: A. Laveran. As some of the normal elements of blood, more or less modified in

their appearance, have on more than one occasion been mistaken for endoglobular hematozoa, a detailed account, with diagrams, is given of some of the more common cases leading to this error.—On the magnetic hysteresis produced by an oscillating field superimposed on a constant field: P. Duhem. A theoretical investigation completing a former paper on the same subject.—Geodesic and magnetic work in the neighbourhood of Tananarive: P. Colin. The triangulation of the rectangular section between the south and west of Tananarive has been completed at sixty-seven points. At the same time magnetic observations have been carried out at twenty-six stations, a tabular view of the results being given.—The oscillations of railway carriages on entering and leaving a curve: Georges Marié.—Observations of the Giacobini comet (1905 *a*) made with the large equatorial of the Observatory of Bordeaux: Ernest Esclangon.—On Voss surfaces and non-Euclidean geometry: Alphonse Demoulin.—On the indeterminate equation $xa + ya = bza$: Ed. Maillet.—On some points in the theory of numbers and the theory of functions: Georges Rémondos.—On a new spectrum observed in gadolinium: G. Urbain. The author, having obtained a specimen of gadolinia of such purity that twenty successive fractions gave the same value for the atomic weight, has examined the spectrum. There is no absorption spectrum in the visible region, but there are some strong absorption lines in the ultra-violet. The ultra-violet phosphorescence given by this gadolinium in the cathode rays proved to be the same as that attributed by Sir W. Crookes in 1898 to a new element named by him victorium. The author proposes to submit the question as to the identity of gadolinium and victorium to further experiment.—On the triboluminescence of potassium sulphate: D. Gernez. The experiments of the author are not in accord with those of Bandrowski on the same subject. The emission of light appears to be the result of breaking up of crystals already formed, and if due precautions against shock be taken, the phenomenon is not observed at the moment of separation of the crystals from their mother liquor.—The specific volume of a liquid in a capillary space: M. Ponsot.—On the electrical resistance of metallic wires for high-frequency currents: André Broca and M. Turchini. The authors have compared the resistances obtained experimentally with those calculated from Lord Kelvin's formula. For non-magnetic metals, copper and platinum, the deviations from the law calculated by Lord Kelvin are small for moderate frequencies. These deviations, however, are greater than the experimental error, and follow a definite law.—A new method of calculating the exact molecular weights of liquefiable gases from the experimental determination of their densities: Philippe A. Guye. The method described, the detailed proof of which is reserved for a later paper, has been applied to the cases of carbon dioxide, nitrous oxide, sulphur dioxide, hydrochloric acid, and acetylene. The values for the atomic weights of carbon, hydrogen, sulphur, and chlorine agree very closely with those determined by chemical methods. The value for nitrogen (14.006) is lower than the value deduced from chemical data (14.04), and there is reason to suppose that the latter is too high.—The action of potassammonium upon barium bromide: A. Joannis. The reaction has been found to be in accordance with the equation



—On the colloidal forms of ferric chloride: G. Malfitano.—The electrolytic reduction of the nitrocinnamic acids: C. Marie. Meta- and para-nitrocinnamic acids give by electrolytic reduction in alkaline solution the corresponding azoxy acids. The position of the nitro or the amino group has a marked influence on the ease with which the hydrogen is added to the lateral chain. Para derivatives give hydrocinnamic compounds much more easily than the corresponding meta compounds.—The action of carbon monoxide upon silver oxide, and its application to the determination of small quantities of carbon monoxide in the atmosphere: Henri Dejust. Silver oxide, dissolved in ammonia, is immediately reduced by traces of carbon monoxide. The author proposes a colorimetric method based on this reaction for the estimation of minute traces of carbon monoxide in the air.—On strontium ammonium: