

Caius College. Dr. A. C. Haddon, university lecturer in ethnology, has been elected to a senior fellowship at Christ's College.

A DEPARTMENT of experimental psychology has been established, says *Science*, in the Western University of Pennsylvania, under the charge of Dr. Edmund B. Huey.

THE new medical buildings of the University of Liverpool will be opened by the Chancellor, Lord Derby, on Saturday, November 12, and on the same day Lord Kelvin will formally open the new George Holt Physics Laboratory.

THE council of the University of Liverpool has just appointed Dr. J. H. Grindley lecturer in engineering, Mr. A. Leitch assistant lecturer in engineering, and Mr. G. E. Piper demonstrator in applied mechanics and engineering design and drawing.

WE regret to learn of the death of Prof. D. W. Fiske on September 17. The bulk of his estate, including the great book collections, has been left to Cornell University. It is stated in *Science* that the bequest amounts to between 100,000*l.* and 200,000*l.*

DR. E. G. COKER, of the McGill University, Montreal, has been appointed to the professorship of mechanical engineering and applied mathematics at the City and Guilds Technical College, Finsbury, vacated by the appointment of Prof. Dalby to the professorship of engineering at the institute's Central Technical College.

MR. FRANCIS GALTON, F.R.S., has endowed a research fellowship in the University of London for the promotion of the study of "national eugenics," defined as "the study of the agencies under social control that may improve or impair the racial qualities of future generations either physically or mentally." The fellowship is of the annual value of 250*l.*, is tenable for one year in the first instance, and is renewable for two subsequent years. The person appointed to the fellowship will be required to devote the whole of his time to the study of the subject, and in particular to carry out investigations into the history of classes and families, and to deliver lectures and publish memoirs on the subject of his investigations.

THE report on the work of the department of technology of the City and Guilds of London Institute for the session 1903-4 has now been published. The general introduction to the report points out that the encouragement now offered by the Board of Education to the teaching of technology is among the causes contributing to the increase in the number of students in the institute's registered classes. Compared with the figures given in last year's report, those for the past session show a decided improvement. In the different branches of technology, the number of students in November last attending classes in the United Kingdom was 41,089 as compared with 38,638 in the previous year, and the number of examinees was 20,051 as against 17,989. The closer connection of the work of the department with that of the Board of Education is shown, also, not only by the recognition of the City and Guilds of London Institute as an organisation for the inspection of classes in technology, manual training, and domestic economy, but also by the stamping by the Board of Education of full certificates granted by the institute to students who pass in technology and have "qualified in the cognate science or art subjects required by the institute." It is interesting to find that the question of arranging courses of instruction adapted to the requirements of operatives engaged in ship-building is under consideration; it is intended to extend the syllabus in ship carpentry and joinery so as to make it suitable for artisans engaged in other branches of the industry. Care is to be taken not to overlap the syllabus in naval architecture of the Board of Education, and it is expected that the new examination will appeal to a different class of candidates from those who have hitherto presented themselves for examination. It should be noted that the department of technology of the institute occupies an intermediate position between the central and local education authorities and the several trade societies. The latter bodies have shown a growing interest in technical instruction, and year by year the department has grown into more intimate relationship with these trade organisations.

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SOCIETIES AND ACADEMIES.

LONDON.

Entomological Society, October 19.—Prof. E. B. Poulton, F.R.S., president, in the chair.—Dr. T. A. Chapman exhibited a series of *Lozopera deaurana*, Peyr., bred last spring at Hyères, a species regarded as lost, or mythical, until he re-discovered it three years ago at Ile Ste. Marguerite, Cannes. He also exhibited on behalf of Mr. Hugh Main a specimen of *Pieris brassicae*, the anterior and posterior wings of which had been symmetrically injured, probably by the girdle when in the pupal stage.—Mr. G. C. Champion exhibited specimens of *Nothorrhina muricata*, Dalm., from Las Navas, Spain, found trapped in the earthenware cups used to collect the exuding resin on the trunks of pines.—Mr. H. St. J. Donisthorpe exhibited specimens of the rare beetle, *Cis bilamellatus*, Wood, taken at Shirley on October 10 last.—Mr. W. J. Lucas exhibited a ♀ specimen of the rare dragonfly *Agrion armatum*. He said that a ♂ and a ♀ were taken in the Broads by Mr. F. B. Browne last year, and this year about ten more, probably all ♀♀, were taken in the same district. Besides these there are possibly no other examples in Britain. It is quite distinct from our other six blue Agrionines in form and colouring.—Mr. W. J. Kaye exhibited five specimens of *Dianthoecia luteago*, var. *ficklini*, from North Cornwall, taken during the first week of July, 1901, and remarked that while the typical *D. luteago* of the Continent was tolerably constant, wherever it occurred in Britain it assumed a special local form.—Prof. E. B. Poulton, F.R.S., exhibited a number of specimens of the genus *Sphecodes*, five species in all, and of *Ocyptera brevicornis*, a Tachinid, their mimetic fly, illustrative of Mr. Edward Saunders's recent paper on the aculeate Hymenoptera from the Balearic Islands and Spain.—Mr. C. A. J. Rothney sent for exhibition a series of the Indian ant *Myrmicaria jodiens*, from a colony established thirty-two years in the big banyan tree in Barrackpore Park; and specimens of *Monomorium salomonis*, Lin., and *Solenopsis geminata*, Fab., successfully encouraged in Madras as a protection against white ants—termites.—Mr. E. E. Green exhibited a spider from Ceylon mimetic of some coccinellid beetle, at present unidentified.—Colonel J. W. Yerbury exhibited specimens, and read notes upon, deer gadflies taken by him this year in Scotland.

MANCHESTER.

Literary and Philosophical Society, October 18.—Prof. W. Boyd Dawkins, F.R.S., president, in the chair.—Dr. W. A. Bone read a paper entitled "The Mode of Combustion of Hydrocarbons," in which he gave an account of researches carried out by Messrs. R. V. Wheeler and W. E. Stockings and himself, at the Owens College, on the slow combustion of hydrocarbons below their ignition points.—Dr. Charles H. Lees exhibited a modification of the U-tube used in electrolysis which he had devised, and which diminishes to about one-half the correction for pressure due to the column of liquid in the unsealed limb of the tube.

PARIS.

Academy of Sciences, October 24.—M. Mascart in the chair.—Stereoscopy without a stereoscope: J. Violle. In a camera, furnished with two objectives, directly in front of the plate is placed a grating, ruled with 100 black lines to the inch. The negative from this contains the two sets of images, each crossed with a set of fine bands. When this is looked at through a similar ruled plate the picture appears in relief.—On the modifications of glycolysis in the capillaries caused by local modification of the temperature: R. Lepine and M. Boulud. The experiments were made on dogs. Relatively to the arterial blood, the venous blood of the warmer part always contains a little more sugar. In the case of the paw kept cool, this difference is increased to about double, and is in the same direction.—On integral functions of finite order: L. Leau.—On certain partial differential equations of the second order: S. Bernstein.—On the period of antennæ of different forms: C. Tissot. On account of the high value of the deadening, the rotating mirror method does not give accurate figures for the period, and the author describes another method which is free from this objection. It is

shown that, independently of the principal period, the antennæ give rise to oscillations of a higher order, the laws for which have been experimentally worked out.—Study of the sea bottom of the North Atlantic; the Henderson and Chaucer Banks: M. **Thoulet**. The examination of the deposits obtained from the bed of the North Atlantic by the Prince of Monaco renders the existence of the Henderson and Chaucer Banks improbable. The proportion of lime found was remarkably uniform, whilst the amount of sand was very variable. It results that the usual method of classification by sand, although very useful near the coasts, is useless for the study of great depths.—Remarks on a recent series of calorimetric determinations: P. **Lemoult**. Some recent calorimetric determinations with the Krøcker bomb by E. Fischer and F. Wrede are re-calculated to constant pressure, and the results compared with the original figures of Berthelot and some later unpublished ones of Landrieu. The numbers given by the formulæ of the author are also tabulated in parallel column.—The extraction of vanadium from the natural lead vanadate and the manufacture of some alloys of this metal: H. **Herrenschmidt**. The mineral is treated in a reverberatory furnace with carbonate of soda and carbon, and a slag obtained containing the vanadate, aluminate, and silicate of soda along with oxide of iron. This is again melted, and air blown through until the vanadium is completely oxidised, and the sodium vanadate lixiviated.—On a new anhydride of dulcine: P. **Carré**. The new anhydride is obtained by heating dulcine with phosphoric acid at 135° C. It is isomeric with mannide, and is named dulcide.—A new method for preparing organic derivatives of phosphorus: V. **Auger**. The solution obtained by dissolving granulated phosphorus in alcoholic soda is heated with an alkyl iodide or bromide. An alkylphosphine is formed, recognised after its oxidation to the corresponding alkylphosphinic acid.—The influence of the products of the breaking down of albuminoid materials on the saponification of oils by cytoplasm: Ed. **Urbain**, L. **Perruchon**, and J. **Lancon**.—On the tyrosinase of the fly: C. **Gessard**. In *Lucilia Caesar*, in both stages in the life of the insect, the coloration of the integument is due to the reaction of the tyrosinase.—On a parasite of *Audouinia tentaculata*, *Angeiocystis audouiniae*: Louis **Braeil**.—Oscillations of coast-line animals synchronous with the tide: Georges **Bohn**.—On the geology of the Lower Engadine: Pierre **Termier**.—On the toxicity of the chlorhydrate of amyline: L. **Lamnoy**.

DIARY OF SOCIETIES.

THURSDAY, NOVEMBER 3.

CHEMICAL SOCIETY, at 8.—Note on the Action of Nitric Acid on the Ethers: J. B. Cohen and J. Gatecliff.—The Condensation of Formaldehyde with Acetone (Preliminary Note): E. A. Werner.—Union of Hydrogen and Chlorine. Rate of Decay of Activity of Chlorine: J. W. Mellor.—The Action of Phthalic Anhydride on α -Naphthylmagnesium-bromide: S. S. Pickles and C. Weizmann.—The Constitution of Nitrogen Iodide: O. Silberrad.—The Available Plant Food in Soils: H. Ingle.—The Combustion of Ethylene: W. A. Bone and R. V. Wheeler.—The Decomposition of Methylurea: C. E. Fawcitt.—The Influence of Certain Salts and Organic Bodies on the Oxidation of Guaiaacum: Miss E. G. Willcock.—The Influence of Potassium Persulphate on the Estimation of Hydrogen Peroxide: J. A. N. Friend.—The Dynamic Isomerism of α - and β -Crotonic Acids (Preliminary Note): R. S. Morrell and E. K. Hanson.—The Influence of Sunlight on the Dissolving of Gold in an Aqueous Solution of Potassium Cyanide: W. A. Caldecott: (1) The Fractional Hydrolysis of Amygdalinic Acid; (2) I oamygdaline: H. D. Dakin.

RÖNTGEN SOCIETY, at 8.15.—The Presidential Address: C. Thurston Holland.

CIVIL AND MECHANICAL ENGINEERS' SOCIETY, at 8.—Presidential Address, The Effect of Patent Law on Modern Civilisation: C. T. Hanssen.

FRIDAY, NOVEMBER 4.

GEOLOGISTS ASSOCIATION, at 8.—Conversazione.

MONDAY, NOVEMBER 7.

ROYAL GEOGRAPHICAL SOCIETY (Albert Hall), at 8.30.—The Work of the National Antarctic Expedition: Captain R. F. Scott, R.N.

SOCIETY OF CHEMICAL INDUSTRY, at 8.—The Trend of Invention in Chemical Industry: J. Fletcher Moulton, F.R.S.

TUESDAY, NOVEMBER 8.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Coast Erosion: A. E. Carey.—Erosion on the Holderness Coast of Yorkshire: E. R. Matthews.

WEDNESDAY, NOVEMBER 9.

GEOLOGICAL SOCIETY, at 8.—On the Occurrence of *Elephas meridionalis* at Dewlish, Dorset. No. II. Human Agency Suggested: Rev. Omond

Fisher.—Notes on Upper Jurassic Ammonites, with Special Reference to Specimens in the University Museum, Oxford. No. II.: Miss Maud Healey.—Sarsen-Stones in a Clay-Pit: Rev. E. C. Spicer.

THURSDAY, NOVEMBER 10.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—The premiums awarded for papers read or published during the session 1903-4 will be presented, and the president, Mr. Alexander Siemens, will deliver his inaugural address.

MATHEMATICAL SOCIETY, at 5.30.—Annual General Meeting.—Presidential Address on the Theory of Waves on Liquids: Prof. H. Lamb.—Note on the Application of the Method of Images to Problems of Vibrations: Prof. V. Volterra.—On the Zeros of Certain Classes of Integral Taylor's Series: G. H. Hardy.—The Linear Difference Equation of the First Order: Rev. E. W. Barnes.—Curves on a Conicoid: H. Hilton.—Remarks on Alternants and Continuous Groups: Dr. H. F. Baker.—On the Expansion of the Elliptic and Zeta Functions of $\frac{1}{2}K$ in Powers of q : Dr. J. W. L. Glaisher.—Examples of Perpetuants: J. E. Wright.—Two Simple Results in the Attraction of Uniform Wires obtained by Quaternions, with, for comparison, their Verification by the Geometry of the Complex: Prof. R. W. Genese.—On the Reducibility of Covariants of Binary Quantics of Infinite Order: P. W. Wood.—On some Properties of Groups of Odd Order: Prof. W. Burnside.

FRIDAY, NOVEMBER 11.

ROYAL ASTRONOMICAL SOCIETY, at 5.
MALACOLOGICAL SOCIETY, at 8.—Descriptions of Three New Species of Opisthostoma from Borneo: E. A. Smith, I.S.O.—Two Apparently New Species of Planispira from the Islands of Java and Gisser: Rev. R. Ashington Bullen.—The Anatomy of *Siliqua patula*, Dixon: H. Howard Bloomer.—On the Genus Tomigerus, with Descriptions of New Species: H. von Ihering.—Notes on Some New Zealand Pleurotomidæ: Henry Suter.—Notes on Some Species of Chione from New Zealand: Henry Suter.

SOCIOLOGICAL SOCIETY, at 4.—Relation between Sociology and Ethics: Prof. Höffding.

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