University Events

ABERDEEN.—The honorary degree of LL.D. was conferred on Dr. E. J. Butler, secretary to the Agricultural Research Council, and on Dr. G. Dahlberg, director of the Institute of Medical Genetics, Uppsala, among others, on March 30. The ordinary degree of D.Sc. was conferred on Dr. D. Robertson, for a thesis entitled "Studies on the Internal Parasites of Sheep in Scotland and the Importance of Nutrition in Regard to their Control."

CAMBRIDGE.—The adjudicators consider that the following essays submitted by candidates for the Smith's Prizes and Rayleigh Prizes are of distinction: F. Hoyle, of Emmanuel College, "Beta-Disintegration"; G. L. Clark, of Trinity College, "The Relativity Theory of Gravitation"; G. S. Rushbrooke, of St. John's College, "Strictly-regular Solutions"; A. L. Yoxall, of Sidney Sussex College, "Systems of Equivalence and their Applications to the Geometry of Algebraic Varieties". The Smith's Prizes are awarded to F. Hoyle, of Emmanuel College and A. L. Yoxall, of Sidney Sussex College. Rayleigh Prizes are awarded to G. L. Clark, of Trinity College and G. S. Rushbrooke, of St. John's College.

The General Board recommends: (*a*) that the following additional University teaching offices be established: A University lectureship in the Faculty of Economics and Politics; two University demonstratorships in the Department of Engineering; (*b*) that a third assistant directorship of research in colloid science be established and that the General Board be authorized to appoint Dr. H. W. Melville to this post for five years; (*c*) that a post of assistant in statistical research be established; (*d*) that three posts of assistant in research in medicine be established from July 1, and that appointments to these posts be made by the Appointments Committee of the Faculty of Medicine, with the approval of the General Board, each for a period not exceeding five years, or for so long as the Rockefeller Foundation continues the grant to the University for this purpose, whichever period is the shorter.

The Board of Research Studies has approved Dr. F. P. Bowden, of Gonville and Caius College, for the degree of Sc.D.

LONDON.—Lieut.-Colonel H. E. Shortt has been appointed, as from April 1, to the University readership in medical parasitology tenable at the London School of Hygiene and Tropical Medicine. Since 1934 he has been director of the King Institute of Preventive Medicine, Madras.

Societies and Academies

Paris

Academy of Sciences, February 7 (*C.R.*, 206, 385–464).

GASTON JULIA: The inversion of the linear operators of Hilbertian space.

LUCIEN CAYEUX: The brechoid structure of chalk containing phosphates of the North of France, and its multiple origins.

CHARLES ACHARD, AUGUSTIN BOUTARIC and MME. MADELEINE ROY: Viscosimetric researches on serums and solutions of their proteins separated by the cold acetone method.

PIERRE LEJAY: Application of the inverted elastic pendulum to levelling the axes of astronomical instruments. This method possesses some advantages over the usual liquid level. It is much more rapid and rather more accurate.

HENRI EYRAUD: Some laws of errors in two dimensions.

GUSTAVE MALÉCOT: The Mendelian chances and the correlations of heredity.

STANISLAS GOLAB: The function representing the distance of a variable point to a fixed ensemble.

RODOLPHE HENRI GERMAY: The decomposition into primary factors of certain uniform functions.

DRAGOSLAV S. MITRINIVITCH: Theorems relating to the differential equation of Riccati.

ROBERT BALLIEU: Functions locally univalent in the unit-circle.

CHI-TAI CHUANG: A criterion of quasi-normal family and on Schottky's theorem.

JOSEPH PERES and LUCIEN MALAVARD: Analogical realizations of flow with jet lines.

PIERRE CLERGET and RAYMOND MARCHAL: The working of injection motors and igniting by compression in a rarefied atmosphere. The motor, with double injection, was fitted with mechanical compressor giving an admission pressure of 760 mm. at a height of 2,700 metres. An aeroplane driven by this motor climbed to a height of 7,650 m. without the controls being affected.

GODOFREDO GARCIA and ALFRED ROSENBLATT: Stokes's formula in the theory of gravity.

GLEB WATAGHIN: The theory of neutrinos.

PAUL EHRENFEST: Two negatives of penetrating cosmic rays obtained in the Bellevue magnetic field (10,000–15,000 gauss) and on the existence of a heavy particle.

MATHIEU DOBINE: A possible method of determination of the true adsorption of the solvent and of the dissolved body in concentrated solutions.

GEORGES CARPÉNI: Electrometry and ultra-violet spectrography of rhodizonic acid. Remarks on titration with iodine.

GEORGES WOLF: A method of determining the metals of the alkaline earths. The method is based on the pressure of carbon dioxide obtained by heating a mixture of the three carbonates in a vacuum at temperatures between 630° C. and 840° C.

FERNANDO GONZÂLÈS NUÑEZ and EMILO FIGUEROA: Preparation and study of vanadyl bromide.

MLLE. YVONNE GARREAU: Some addition compounds of pyrocatechol.

MME. ELISABETH JÉRÉMINE: The lherzolites in the course of serpentinization in the Lorraine Vosges.

FRANÇOIS KRAUT and ANDRÉ VATAN: The origin of the clay rocks of the neighbourhood of Confolens (Charente) attributed to the siderolithic. These clays are not, as has been supposed hitherto, siderolithic sediments, but have been formed where they are found.

ARNOLD BERSIER: The subsidence in the molassic pre-fosse of the Alps.

RENÉ BERNARD: The observation of a new fluorescence phenomenon in the upper atmosphere. The presence and intensity variations of the radiation λ 5893 A. in the light of the sky at twilight.

JACQUES BARDET, ARAKEL TCHAKIRIAN and MLLE. RAYMONDE LAGRANGE: The spectrographic search for traces of elements in sea water. Various precipitates were formed in sea water (60 litres) and examined spectroscopically. By this method all the elements detected by other workers, with the exception of

nickel and tungsten, have been found, and arsenic and gallium, not previously notified, were added to the list. Gold was not found, and there seems reason to suppose that gold is irregularly distributed in sea water.

TIEN KIU : Atmospheric absorption and molecular diffusion according to the measurements of the Smithsonian Institution at Montezuma.

PHILIPPE HAGENE : The influence of the solvent and of the concentration on the velocity of penetration of thymol into the internal epidermal cells of the fleshy leaves of the onion bulb.

ROGER GAUTHERET : Researches on the culture of fragments of tubercles of the carrot.

MAURICE BOUCHET, ANTOINE JULLIEN, DANIEL VINCENT and MLLE. MADELEINE VUILLET : The diffusion of acetylcholine starting with the heart of *Helix pomatia*. In *Helix pomatia* a fraction of the intramyocardiac acetylcholine is diffusible into the surrounding medium.: the concentration of the medium in this substance increases with the time, reaching a certain equilibrium after some hours. The quantity set free amounts to approximately one eighth of the total stock of acetylcholine.

ANTOINE MAGNAN, CHARLES PERRILLIAT-BOTONET and HENRY GIRERD : Attempts at simultaneous cinematographic recording in three perpendicular directions, two by two, of the flow of air around a bird in flight.

Prague

Czech Academy of Sciences and Arts

May 28, 1937.

J. MILBAUER : Colloidal and pure carbon. Colloidal carbon was prepared by the action of sulphuric acid on acetylene at 200° C. After centrifuging and washing, purest carbon was obtained, of a brownish black colour. Pure carbon was also obtained by using sugar instead of acetylene.

R. ROST : The minerals in burning waste heaps in the Kladno district.

A. ORLOV : The first discovery of bauxites in Czechoslovakia.

E. KODÍČEK and J. JOACHIM : The quantity of vitamin C in the organs of rats affected by vitaminose B.

T. BUDAY : Geological conditions in the surroundings of Šahy, in southern Slovakia.

October 22, 1937.

K. DOMIN : *Lycopodium Issleri* Rouy in Czechoslovakia and the variability of the native *Lycopodium* of the section *Heterophylla* Spring.

B. HEJDA and F. PROCHÁZKA : Glutathione in the blood, and its significance in metabolism.

F. NĚMEJC : Palæobotanical studies in travertine sediments near Gánoved and Horky (Poprad, Slovakia).

J. WOLF : The surface relief of human skin. (2) Stratum desquamans epidermis in man.

V. ŠPALEK : The Miocene of Židlochovice, Moravia.

December 10, 1937.

J. MILBAUER : A note on the action of permanganate with selenites.

J. VACHTL : A new discovery of carboniferous flora in the Slovakian Ore Mountains.

M. HAMPL : The strain and bending of a spherical bottom, effected by uniform radial pressure.

V. HOVORKA and V. SÝKORA : The β-oxime of isatine, a new reagent for certain metals. (2) Determination of uranium by the β-oxime of isatin.

Washington, D.C.

National Academy of Sciences (*Proc.*, 24, 53–106, Feb. 15).

W. J. ROBBINS : Organisms requiring vitamin B_1. The fungi examined can be divided into four groups according as they require : (1) the vitamin ; (2) thiazole and pyrimidine (intermediates of the vitamin), or the vitamin ; (3) pyrimidine, both intermediates or the vitamin ; (4) thiazole, both intermediates or the vitamin. Some fungi are unaffected by any of these substances, and others are inhibited.

O. J. EIGSTI : Cytological study of colchicine effects in the induction of polyploidy in plants. Solutions of 1 per cent colchicine and upwards are toxic, and even weaker solutions are toxic if treatment is prolonged. Weak solutions produce enlargement of meristematic tissue (root and stem). Individual cells are affected independently of their neighbours. Mitosis proceeds, but spindle and cell-plate formation are inhibited, producing nuclei with double or more times the number of chromosomes.

G. EVELYN HUTCHINSON : Chemical stratification and lake morphology. The distribution of alkalinity (bicarbonate ion, determined by titration with methyl orange as indicator) in a small lake suggests that the bottom water movements are confined to thin horizontal layers, as suggested by Alsterberg. Certain sudden rises in alkalinity appear to be initiated by temperature minima at the surface.

J. BONNER and D. BONNER : Ascorbic acid and the growth of plant embryos. Embryos of different varieties of peas differ markedly in the amount of ascorbic acid they are able to synthesize from sucrose and also in their response to added ascorbic acid. Varieties which synthesize most respond least (or not at all) to added ascorbic acid, and vice versa.

W. J. V. OSTERHOUT : Potentials in *Halicystis* as affected by non-electrolytes. To study changes in potential difference caused by diluting sea water bathing cells of *Halicystis*, a non-electrolyte should be added to maintain the osmotic pressure of the sea water ; mannite seems to be most suitable.

G. W. BEADLE, R. L. ANDERSON and JANE MAXWELL : A comparison of the diffusible substances concerned with eye colour development in *Drosophila*, *Ephestia* and *Habrobracon*.

D. M. WHITAKER : Effect of *p*H on the development of ultra-centrifuged *Fucus* eggs. Fertilized eggs centrifuged at 150,000 times gravity and at *p*H 7·9–8·1 formed rhizoids at the centrifugal ends ; at *p*H 5·8–6·1, rhizoids formed at the centripetal ends. The effects may be due to concentration and toxic over-concentration respectively of growth hormone by centrifuging.

LOUISE WIPF and D. C. COOPER : Chromosome numbers in nodules and roots of red clover, common vetch and garden pea. In each species, a tetraploid number (twice that of ordinary tissue) was found.

G. A. MILLER : (1) Groups having a maximum set of independent generators of the same order. (2) Groups having a maximum number set of conjugate independent generators.

R. COURANT : Existence of a minimal surface of least area bounded by prescribed Jordan arcs and prescribed surfaces.

F. BERNSTEIN : The continuumproblem.

H. LEWY : Existence of a closed convex surface realizing a given Riemannian metric.