

University Events

CAMBRIDGE.—R. L. M. Synge, of Trinity College, has been appointed to the Benn W. Levy studentship in biochemistry.

The following grants have been made from the Balfour Fund: £50 to Dr. D. G. MacInnes for research on Tertiary and Quaternary fossil Mammalia of the Rukwa Basin; and £25 to H. W. Lissmann for research at Naples on animal locomotion.

The degree of master of arts has been conferred upon Prof. T. Dalling, professor of animal pathology.

In accordance with its usual practice, Trinity College announces the offer of a research studentship open to graduates of other universities who propose to go to Cambridge in October next as candidates for the degree of Ph.D. The value of the studentship may be as much as £300 a year if the pecuniary circumstances of the successful candidate require so large a sum. Candidates must not have reached the age of twenty-six years before May 1, 1938. Trinity College also offers, as usual, Dominion and Colonial exhibitions to students of Dominion and Colonial universities who wish to go to Cambridge next October as candidates for the degree of B.A., M.Litt., M.Sc., or Ph.D. These exhibitions are of the titular value of £40, but the College Council has power to award an additional payment. A candidate for a studentship or exhibition should apply through the principal authority of his university, and his application should reach the Senior Tutor (from whom further particulars may be obtained) by May 1, 1938.

LEEDS.—The title of emeritus professor has been conferred upon Dr. G. W. Watson, formerly professor of medicine in the University.

LONDON.—Mr. T. C. Stamp has been appointed to the University readership in bacteriology tenable at the British Postgraduate Medical School. Since 1933 he has been lecturer in bacteriology at the London School of Hygiene and Tropical Medicine.

Dr. A. R. Todd has been appointed as from October 1 to the University readership in biochemistry tenable at the Lister Institute of Preventive Medicine. Since 1936 he has been an assistant in the Biochemistry Department of that Institute.

The title of reader in zoology in the University has been conferred on Mr. H. R. Hewer, in respect of the post held by him at the Imperial College of Science and Technology.

The title of emeritus professor of plant physiology in the University has been conferred on Prof. V. H. Blackman, on his retirement from the University professorship in plant physiology at the Imperial College—Royal College of Science.

An offer by Mr. A. Chester Beatty to provide a scholarship in radiology of £400 a year for two years has been accepted with the cordial thanks of the University. This scholarship will enable a student of radiology, after obtaining the academic diploma in medical radiology, to spend a year in one of the great radiological clinics of the United States.

READING.—The honorary degree of D.Sc. will be conferred on the following at a Congregation to be held on November 29, on the occasion of the installation of Sir Samuel Hoare as chancellor of the University: Prof. James Chadwick, Sir Warren Fisher, the Right Hon. the Earl of Iveagh, Sir Thomas H. Middleton and Sir Edward B. Poulton.

Societies and Academies

Paris

September 6 (*C.R.*, 205, 453–472).

ARNAUD DENJOY: The singularities of the analytical function defined by a Weierstrass element.

MARCEL BRÉLOT: The best or smallest harmonic majorants of sub-harmonic functions.

MME. NATHALIE DEMASSIEUX and BASILE FEDEROFF: The dehydration of the double sulphate of copper and potassium. The changes produced by loss of water on gradual heating have been followed by means of X-ray diffraction diagrams (Debye and Scherrer method). The X-ray photographs for $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ and $\text{K}_2\text{Cu}(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$ for ten stages of heating are reproduced.

TRYPHON KARANTASSIS and CONSTANTIN VASSILIADÈS: The preparation of the stannic diiodides and their action on aromatic amines.

ANDRÉ MEYER and HENRI DRUTEL: The condensation of the 2, 6-dimethyl and 2, 8-dimethyl 4, hydroxyquinolines and their derivatives with aromatic aldehydes.

HENRY HUBERT: Storm squalls in western Africa.

ROGER GAUTHERET: Some properties of the apical cells of *Lupinus albus*.

GASTON RAMON: The utilization of anatoxins in the treatment of toxi-infections in the course of development. Sero-anatoxitherapy.

Brussels

Royal Academy (*Bull. Classe Sci.*, 23, No. 6, 1937).

L. GODEAUX: Remarks on algebraic varieties of bigenus one.

G. A. BOULENGER: Some advice to naturalists on how to express themselves in their publications, and on the subject of certain errors to be avoided.

M. KOURENSKY: The integration of linear partial differential equations of the first order in two or more unknown functions.

P. BURNIAT: Hypersurfaces and canonical varieties.

MISS D. CRESPIN: The spectral classification of stars of type B and the distribution of absorbent elements in the interior of stellar atmospheres.

M. NICOLET: Note on the hydrogen molecule of stellar atmospheres.

P. LEDOUX: The equilibrium of molecular dissociation in the interior of a stellar atmosphere.

MISS F. DEHALU: New researches on the $^2\Sigma - ^2\Sigma$ band system of the AIO molecule and astrophysical applications.

B. ROSEN and MISS J. MAT: Isotopic effect in the resonance series of Te_2 .

M. NICOLET: Identification of new lines of NH in the spectrum of the sun's reversing layer.

G. A. HOMÈS, M. BRUNIN and P. DUWEZ: The state of dislocation of cold-worked metallic crystals.

J. CLAEYS and H. SACK: Some remarks on the absorption of ultra-sound in tubes.

L. MARTON: The electronic micrography of biological objects.

Bull. Classe Sci., 23, No. 7, 1937.

L. GODEAUX: Cyclical involutions belonging to an algebraic variety of genera one.

TH. DE DONDER: The velocity of a coupled reaction.

TH. DE DONDER and J. PELSENER: The velocity of propagation of light according to Descartes. Contrary to the opinion prevailing at the time of its publication, Descartes' theory did not imply the instantaneous propagation of light.

J. F. COX: Some remarks on a note by Nisoli and Gérard on a new determination of the vertex of the cluster in Taurus and of the star stream in Scorpio-Centaurus.

MRS. J. HENRY-CORNET and L. HENRY: Estimation of bilirubin in blood serum by the spectrographic method.

N. BOUTAKOFF: The flow northwards of Lake Tanganyika during the Pleistocene.

Washington, D.C.

National Academy of Sciences (*Proc.*, 23, 351-421, July 15, 1937).

C. C. TAN: 'Compressed deficiency' and the location of the spindle attachment in the X-chromosome of *Drosophila pseudo-obscura*.

G. W. BEADLE and B. EPHRUSSI: Ovary transplants in *Drosophila melanogaster*: meiosis and crossing-over in superfemales. The ovaries of superfemales (individuals containing three X-chromosomes and two antosomes) have been successfully transplanted into normal females. Although such females are low in viability and always sterile, the transplanted ovaries gave fertile eggs. Mortality of eggs and larvæ was high, however, and this and other results suggest that this particular lack of chromosome balance interferes with crossing-over and hence with the mechanism of meiosis.

A. H. STURTEVANT: An effect of the Y-chromosome on the sex-ratio of inter-racial hybrids of *Drosophila pseudo-obscura*.

A. MARSHAK: Effect of X-rays on chromosomes in mitosis. For both plant and animal tissue, chromosomes are most sensitive to X-rays at the onset of prophase; the frequency of induced abnormalities is independent of wave-length but varies directly as the total length of the chromonemata. The diameter of the 'sensitive volume' of all the chromonemata studied is of the same order of magnitude, and agrees with that of the average diameter of a polypeptide chain or a protamine molecule. Changes in sensitivity to X-rays induced by treatment with ammonia and carbon dioxide also suggest that the 'sensitive volume' consists of material of the type of the protamines or histones.

A. TYLER and N. H. HOROWITZ: The action of certain substituted phenols on marine eggs in relation to their dissociation. 2,4-Dinitrophenol and various substituted phenols increase the respiratory rate of sea-urchin eggs and at maximum stimulation prevent cleavage; the effect is reversible. The effect on cleavage depends on the concentration of undissociated compound present. Once inside the cells, however, it is the dissociated form that is active.

G. N. SNELL and P. C. AEBERSOLD: The production of sterility in male mice by irradiation with neutrons. As with X-rays, the first result of irradiation with neutrons is reduction of litter size, followed by

temporary sterility; but neutrons, as measured by ionization in the bakelite-walled thimble chamber of a standard roentgen meter, are 5-6 times as effective as X-rays.

T. M. SONNEBORN: Sex, sex inheritance and sex determination in *Paramecium aurelia*. In a certain race of this organism, it was found that the individuals could be divided into two classes, sex I and sex II; members of different classes unite for conjugation, while those of the same class do not. Provided neither endomixis (disintegration of meganucleus and its replacement by a fission body of the micronucleus) nor conjugation occurs, all products of fission are of the same sex as their progenitor. At conjugation or endomixis, sex differentiation occurs.

W. J. ROBBINS and MARY A. BARTLEY: Thiazole and the growth of excised tomato roots. While excised tomato roots do not grow in a nutrient solution of mineral salts and pure cane sugar, addition of yeast enables them to grow satisfactorily. For the yeast, one of its constituents, crystalline vitamin B₁, can be substituted. Since vitamin B₁ has been synthesized from pyrimidines and a thiazole derivative, these parent substances were tested, and it was found that the thiazole compound enabled growth to continue. Presumably the thiazole radical of vitamin B₁ is the active substance.

W. J. ROBBINS, MARY A. BARTLEY, A. G. HOGAN and L. R. RICHARDSON: Pyrimidine and thiazole intermediates as substitutes for vitamin B₁. Neither of these classes of compounds can cure experimental polyneuritis in pigeons, but 5 mgm. doses of each, if given not more than 24 hours apart, are effective. It is considered that vitamin B₁ is synthesized from these intermediates *in vivo*.

L. H. GERMER and K. H. STORKS. The structure of Langmuir-Blodgett films of stearic acid. Electron diffraction patterns were obtained from such multiple films deposited on a block of chromium-plated nickel. These patterns indicate that the carbon atoms in these crystals are arranged in zigzag planar chains, the axes of which are nearly, if not accurately, parallel to each other, this direction being inclined downward towards the water surface from the plane of the supporting block. Crystallographic constants have been deduced and the cross-section of the stearic acid reciprocal lattice constructed. The results have been confirmed by the examination by transmission of similar built-up films deposited on a very thin transparent backing foil.

C. STOCK: A peccary skull from the Barstow Miocene, California.

F. D. MILLER: Note on galactic structure: the Milky Way from Aquila to Cygnus.

O. ZARISKI: Some results in the arithmetic theory of algebraic functions of several variables.

N. A. HALL: Binary quadratic discriminants with a single class of reduced forms in each genus.

D. LEWIS and M. J. LARSEN: The cancellation, reinforcement and measurement of subjective tones. Experimental results indicate that an audible subjective tone can be increased or decreased in loudness by the introduction of a harmonic of pitch the same as that of the subjective tone. Reinforcement seems to be due to constructive interference, and cancellation to destructive interference; hence the magnitude of the subjective tone can be measured in terms of an equivalent amount of sound pressure. It is suggested that subjective tones have representation in terms of actual vibrations in the cochlea.