

University Events

CAMBRIDGE.—At Trinity College, Prof. W. L. Bragg, Cavendish professor of experimental physics and former director of the National Physical Laboratory, has been elected into a professorial fellowship.

At King's College, J. W. S. Pringle and K. H. Harrison have been elected into fellowships. Mr. Pringle was educated at Winchester College, was placed in the first class of both parts of the Natural Sciences Tripos, was awarded the Amy Mary Preston Read scholarship in 1937 and appointed a University demonstrator in zoology. Mr. Harrison was educated at Bootham School, placed in the first class in both parts of the Natural Sciences Tripos and awarded the Benn W. Levy Research Studentship in biochemistry in 1936.

LEEDS.—Mr. W. E. Adams has been appointed lecturer in histology and will take up his duties at the beginning of next session.

OXFORD.—The Rolleston Memorial Prize of the value of about £100 is awarded every two years for original research in animal and vegetable morphology, physiology and pathology, or anthropology. Memoirs already published may be submitted and graduates of Oxford or Cambridge or research students are eligible. Further information can be obtained from the Registrar of the University, Oxford, to whom the memoirs should be sent before March 31.

The next award of the Radcliffe Prize, which is of the value of £50, will be made in March 1939. It is awarded for research in any branch of medical science and is open to all graduates of the University who are proceeding to a medical degree at Oxford. Further information can be obtained from the Secretary of the Faculties, University Registry, Oxford.

Societies and Academies

Paris

Academy of Sciences, January 24 (*C.R.*, 206, 221–288).

JEAN CABANNES and **JEAN DUFAY**: The yellow radiation of the night sky. Utilizing numerous photographs made at Montpellier, the wave-length of the yellow line is found to be $5894 \pm 1 \text{ \AA}$. The possibility of this line being produced by the emission of sodium atoms in the upper atmosphere is considered.

CHARLES EUGÈNE GUYE: Rectification of the note of January 4 on the possibility of verifying experimentally the relation $v = v_0 \sqrt{1 - \beta^2}$ of limited relativity.

RAPHAËL SALEM: The convergence *presque partout* of certain trigonometrical series.

PAUL LÉVY: The variation of the maximum of a function.

LUCIEN HIBBERT: The solution of algebraical equations of the form $z^n = z - a$.

CARLOS BIGGERI: Some theorems on the peripheral singularities of Taylor's series.

ALBERT MÉTRAL and **FRANÇOIS RAYMOND**: A method of measuring the resistance caused by the air on a railway train.

ADOLPHE FESTAETS: The Stroobant (star) stream.

BERNARD KWAL: The indetermination of electro-magnetic potentials.

OUANG TE-TCHAO: The spectrum of mobilities of the large ions.

NOËL FELICI: The equilibrium of supra-conductors.

ROBERT PINOIR: A new method of stabilization of the anodic current of electronic valves with respect to variations of the plate potential.

MICHEL CYMBOLISTE: The relations between the state of the surface of electrolytic chromium, its structure and its mechanical properties.

F. REDSLOB and **H. FORESTIER**: Study of the reactions of the formation of the ferrites of tin and cadmium.

GEORGES COSTEANU and **PAUL RENAUD**: The actions of water, hydrogen sulphide and iodine on sensitive surfaces.

ANDRÉ CHRETIEN and **GUSTAVE OECHSEL**: The use of acetyl chloride as a chlorination agent in inorganic chemistry. Acetyl chloride reacts with various metallic oxides (UO_2 , V_2O_5 , MnO_2). The apparatus used for the isolation and purification of the products is described and illustrated.

MILLE. YVONNE GARREAU: The action of thiochronic acid and of 2·5-dichlorhydroquinone-3·6-disulphonic acid on the primary amines. Constitution of the latter acid and of euthiochronic acid.

GEORGES LAUDE: The influence of some factors on the formation of ammonia by boiling proteins with alkaline solutions of potash.

ALBERT MICHEL-LÉVY and **JEAN WYART**: The utilization of the high temperatures and high pressures realized in the detonation of explosives for the artificial reproduction of minerals: zincite and willemite. Starting with a precipitate of amorphous silica in a brass container, the detonation of an explosive gives crystallized willemite.

MARCEL CHICHERY: The stratigraphy of the Dinantian formations of the Ardoisière basin, near Vichy (Allier).

GEORGES CHOUBERT: The Dogger of the Hauts-Plateaux and of the middle Moulouya.

HUBERT GARRIGUE: A study of the variations of temperature of the free air at the edge of an aeroplane.

ROGER FAILLETTAZ: Recording atmospherics and storm predictions.

MAURICE BURGAUD: Magnetic observations in China. Tabulated results from 38 stations in China, reduced to January 1, 1937.

FRÉDÉRIC MARIE BERGOUNIOUX: The discovery of a fossil tortoise in the Permian of Saint-Christophe (Aveyron).

ANDRÉ SARAZIN: The nuclear evolution of the basidia and of the basidiospores in *Agaricus campestris*.

RENÉ SOUÈGES: The embryogeny of the Campanulaceæ. The development of the embryo in *Jasione montana*.

RAYMOND CAHEN and **E. MOISSET DE ESPANÈS**: The cardio-vascular effects of the fluid extract of *Gelsemium sempervirens*.

LOUIS GALLIEN: The action of dihydrofolliculine benzoate in the differentiation of sex in *Rana temporaria*.

ALBERT VANDEL: The action of X-rays on the terrestrial Isopod *Trichoniscus (Spiloniscus) provisorius*

Dublin

Royal Dublin Society, January 25.

V. C. BARRY: The preparation, properties, and mode of occurrence of laminarin.

J. CARROLL: Mineral oils as insecticides. An outline of the extent to which kerosene has been used in the past and of recent research on the use as insecticides of other fractions and grades of mineral oil. A full account is given of the utilization of lubricating oil emulsions, miscible oils, white oil emulsions, and combined tar-distillate and mineral oil sprays. Combination mineral oil and fungicide sprays are discussed, with suggestions as to promising lines for further research.

O. ROBERTS and J. DOYLE: The pH of conifer leaves in relation to systematy. Individual variations in pH are small. Seasonal variations, though also small, seem definitely related to seasonal metabolic changes. From the examination of more than ninety species it appears that there is a strong tendency in conifers for natural affinity to be expressed in similarities of metabolism, which are shown by correspondence, often very definite, of the pH range of the related groups.

Amsterdam

Royal Academy (*Proc.*, 41, No. 1, Jan. 1938).

H. Y. JORDAN and J. GUITTART: Regulation of the breathing of *Astacus fluviatilis*. The river crawfish reacts by hyperventilation to lack of oxygen as proprioceptive stimulus.

H. A. KRAMERS: Use of 'grand ensembles' in statistics. Remarks on the application of Gibbs's methods in classical and quantum statistics.

J. G. VAN DER CORPUT: Two, three or four primes (2).

P. ERDÖS: Additive properties of squares of primes.

C. S. MEYER: An integral representation of the Whittaker function.

J. F. KOKSMA: Metric considerations on the approximation of real numbers.

G. C. HIRSCH and J. W. SLUTTER: Change in the structure and shape of the Golgi bodies in the primary yolk of the hen's egg and the 'system theory' of the Golgi bodies.

P. C. FLU: Investigation into the phage content of phage-containing globulin repeatedly precipitated by means of ammonium sulphate.

P. J. HARINGHUIZEN and D. A. WAS: A research on thin layers of tin and other metals. (4) Further investigation on the corrosion by oils. Experiments on the corrosion of iron and cadmium by lubricating oils, and of tin, iron and copper by olive oil and salad oil.

Cracow

Polish Academy of Science and Letters, January 10.

W. JACYNA, L. MALIS and A. OBNORSKY: Critical remarks on the thermodynamic scale below 1° K. The method used by Kürti, Lainé and Simon is considered incorrect. A thermomagnetic equation of sufficient exactness is indispensable.

T. BANACHIEWICZ: Control relations for the multiplication of Cracovians.

J. ZAWADZKI and M. A. ULINSKA: The dissociation of zinc carbonate and the action of carbon dioxide upon zinc oxide. Contribution to the mechanism of reactions of the type $A_{sol} = B_{sol} + C_{gas}$.

J. TOKARSKI: The petrographic analysis of the tufas of Berestowiec.

J. ST. MIKULSKI: Experimental researches on the thermal ecology of eggs in the course of development of some tail-less Amphibians (*Rana*, *Bufo*, *Pelobates*).

M. J. ACKERMANN: Experimental histochemical researches on the metabolism of lecithin in the animal organism. The influence of the ingestion of lecithin on the lipid content in the liver.

S. SKOWRON and Z. WICINSKI: Factors determining the duration of the yellow bodies.

Moscow

Academy of Sciences (*C.R.*, 17, No. 8, 1937).

P. P. DOBRONRAVIN: A possible interpretation of the new system of the TiO bands in the infra-red.

F. M. SEMIAKIN and P. F. MIKHALEV: Probable mechanism of the formation of periodic ice streaks in the course of soil freezing, with reference to the problem of permanently frozen subsoil.

B. DERIAGIN: A device for the investigation of the sensitivity of eye to the ultra-short illumination.

N. S. KURNAKOV, I. B. FEIGELSON and A. G. BERGMAN: Cyclochromograms of salt lakes. Lake Elton (1932-1936).

E. V. ZMAČINSKIJ: Reaction for the differentiation of fruit sugar from grape sugar.

M. P. VOLAROVIČ and L. I. KORČEMKIN: Connection between the viscosity of molten rocks and the acidity coefficients according to F. J. Loewinson-Lessing.

M. P. VOLAROVIČ and A. A. LEONTJEVA: Investigations on the viscosity of obsidians, with reference to the problem of genesis of pumice stone.

D. KOSTOFF: Size of *Nicotiana rustica* L. × *Nicotiana tabacum* L. hybrid embryos and hybrids in respect to their parents.

G. H. MOLOTKOVSKIJ: A porometer for investigations under natural conditions.

G. M. PSAREV: Influence of the alternation of day and night on the nature of the variation in the duration of the various phases of development in soya.

M. I. MENŠIKOV: New data on the distribution of fishes in the basin of the Irtysh.

A. A. VOITKEVIČ: Morphogenetic activity of various parts of hypophysis. (10) The mechanism of the action of the basophile elements of the anterior hypophysis lobes on the feathers of birds.

C.R., 17, No. 9, 1937.

A. GELFOND: A generalization of the inequality of Minkovski.

S. SOBOLEV: A class of integro-differential equations with several independent variables.

N. ACHYESER: The best approximation in a class of constant periodic functions.

A. MARKOFF: Existence of an invariant integral.

S. I. WAWILOV: Nature of the elementary sources of light and the interference phenomena.

A. I. ALICHANIAN and A. S. ZAVELSKIJ: (1) The low-energy region of the β -spectrum of radium E. (2) The low-energy region of α -spectra of thorium C' and thorium B.

I. KOUKLES and N. PISKOUNOV: Tautochromic vibrations in conservative and in non-conservative systems.

M. M. KATZNELSON and D. A. BRODSKY: Hexa-hydro-benzil-barbituric acids.

K. I. MAKOV: Cimmerian deposits in the Skadovsk district, Ukrainian S.S.R.

N. N. KONSTANTINOV: Some interspecific crossings in the genus *Gossypium*.

V. A. HIŽNIAK: Wheat-quitch amphidiploids.

F. UKRADYGA and A. OLEKSIJUK: Nutritive media for sugar beet in sand and water cultures.

V. G. ALEKSANDROV and O. G. ALEKSANDROVA: Mosaic of wheat endosperm.

N. S. PETINOV and P. S. BELIKOV: Continuous supply of plants with water as an indispensable condition of high yields.

B. I. BALINSKIJ: Production of supernumerary balancers in deficiency experiments in *Triton* embryos.

Washington, D.C.

National Academy of Sciences (*Proc.*, 24, 1-52, Jan. 15).

S. GAPOSCHKIN: Asymmetry of light curves in the 'great sequence' as a function of frequency of period.

B. J. BOK and E. M. LINDSAY: Stellar distribution in the vicinity of a southern galactic window.

E. H. MYERS: Present state of our knowledge concerning the life-cycle of the Foraminifera. For many of these organisms, now extensively used in problems of stratigraphical geology and as guide fossils in petroleum geology, the life-cycle consists of an orderly succession of sexual and asexual phases, leading to dimorphism of the test or shell.

G. A. MILLER: Groups having a maximum number set of independent generators.

M. RICHARDSON: Special homology groups.

H. S. UHLER: Log π and other basic constants. The fundamental formula underlying the work is a formula for π given by Ramanujan. By its use, with machine calculation, values are given for $\frac{1}{2} \log_{10} 2\pi$, $\log_e \pi$, $\log_{10} \pi$, $\log_{10} 2$, $\log_{10} 3$, $\log_{10} 5$, $\log_{10} 7$, $\log_e 17$, $\log_{10} 17$, $\log_e 71$, $\log_{10} 71$, $\log_e 113$, $\log_{10} 113$, $1/\pi$ and π^2 , most of them to more than 200 places of decimals.

A. FIALKOW: Einstein spaces in a space of constant curvature.

E. KASNER and J. DE CICCO: Classification of element transformations by means of isogonal and equi-tangential series.

J. W. CALKIN: Abstract self-adjoint boundary conditions.

J. VAN OVERBEEK: A simplified method for auxin extraction. The auxin was extracted from uncrushed material with ether alone, and its concentration is expressed in terms of hetero-auxin (indole-3-acetic acid).

E. B. FRED, P. W. WILSON and O. WYSS: Light intensity and the nitrogen hunger period in the Manchu soybean. Plants exposed at an early stage to intense sunlight are unable to fix atmospheric nitrogen, due apparently to high carbohydrate-nitrogen ratio. By shading a plant for a few days or by addition of combined nitrogen (calcium nitrate), it responded quickly, the leaves becoming green and nitrogen fixation established, due apparently to the change effected in the carbohydrate-nitrogen ratio.

Forthcoming Events

Monday, March 28

ROYAL GEOGRAPHICAL SOCIETY, at 5.30.—Film of "Australian Aboriginal Tribes", lent by the British Museum.

ROYAL SOCIETY OF ARTS, at 8.—Dr. M. A. H. Tincker: "The Growth of Plants in Relation to Cultivation" (Cantor Lectures. Succeeding lectures on April 4 and 11).

Thursday, March 31

BRITISH SOCIETY FOR INTERNATIONAL BIBLIOGRAPHY (at the Science Museum), at 5.15.—B. V. J. Brajnikoff: "Abstracting Russian Literature".

Friday, April 1

ROYAL INSTITUTION, at 9.—Sir Frederick Keeble, F.R.S.: "Humphry Davy, Farmer."

CHEMICAL SOCIETY, March 31—April 1.—Annual General Meeting to be held in Manchester.

April 1.—Prof. G. Barger, F.R.S.: Pictet Memorial Lecture.

BRITISH PSYCHOLOGICAL SOCIETY, March 31—April 4.—Extended General Meeting to be held in the University of St. Andrews.

Appointments Vacant

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:

HEAD OF THE CHEMISTRY DEPARTMENT of the Coventry Technical College—The Director of Education, Council House, Coventry (March 26).

JUNIOR MAINTENANCE ENGINEERS at the B.B.C.—The Engineering Establishment Officer, B.B.C., Broadcasting House, London, W.1 (March 29).

PLANT PATHOLOGIST in the Department of Agriculture for Scotland—The Secretary (Establishment Branch), 29 St. Andrew Square, Edinburgh, 2 (March 31).

CHEMIST, PHYSICISTS, BACTERIOLOGIST AND JUNIOR CHEMIST to the Wool Industries Research Association, Torridon, Leeds, 6—The Secretary (March 31).

SCIENTIFIC OFFICERS and JUNIOR SCIENTIFIC OFFICERS in the Department of Scientific Research and Experiment, Admiralty—The Secretary of the Admiralty (C.E. Branch) (April 2).

ASSISTANT (Grade III—chemistry) in the Department of Scientific Research and Experiment, Admiralty—The Secretary of the Admiralty (C.E. Branch) (April 2).

ASSISTANTS (Grades I and II—mathematics) in the Department of Scientific Research and Experiment, Admiralty—The Secretary of the Admiralty (C.E. Branch) (April 2).

PHYSICIST in the Radon Department, St. Bartholomew's Hospital, E.C.1.—The Acting Clerk to the Governors (April 4).

JUNIOR SCIENTIFIC OFFICER in the Wood Chemistry Section of the Forest Products Research Laboratory, Princes Risborough, Aylesbury, Bucks—The Establishment Officer, Department of Scientific and Industrial Research, 16 Old Queen Street, Westminster, S.W.1 (April 9).

LECTURER IN MECHANICAL AND MARINE ENGINEERING in the City Technical College, Liverpool—The Director of Education, 14 Sir Thomas Street, Liverpool, 1 (April 11).

PROFESSOR OF CHEMISTRY in the University of Sheffield—The Registrar (April 23).

DEMONSTRATOR IN MATHEMATICS in the Imperial College of Science, Prince Consort Road, South Kensington, S.W.7.—The Secretary (April 26).

ASSISTANT LECTURER IN SOCIAL PSYCHOLOGY in the London School of Economics—The Secretary, Houghton Street, Aldwych, W.C.2 (April 30).

LEVERHULME FOUNDATION FELLOW and LECTURER IN PHYSICS in the University of Liverpool—The Registrar (May 1).

PROFESSOR OF CHEMISTRY in the Indian Institute of Science, Bangalore—The Registrar (June 1).

CHIEF MECHANICAL ENGINEER AND TEMPORARY CHEMISTS in the Royal Naval Cordite Factory, Holton Heath, Dorset—The Secretary of the Admiralty (C.E. Branch, II), London, S.W.1.

LECTURER IN MECHANICAL ENGINEERING in the Borough Polytechnic, Borough Road, S.E.1.—The Principal.

LECTURER IN AIR-CONDITIONING in the Borough Polytechnic, Borough Road, S.E.1.—The Principal.