

biorthogonal functions.—A. Bloch : On a circle where a holomorph function takes at least twice the values o and 1 .—S. Saks : A class of interval functions.—J. Haag : The experimental determination of the parameter of precision.—A. Talon : The piezometric equivalence of the yield of transmission.—W. W. Heinrich : New classes of secular solutions of the problem of n bodies.—L. d'Azambuja : Observations of mobile masses of absorbing vapour at great heights above the solar surface. Comparison with high protuberances of rapid evolution.—Albert Pérard : The refractive index of air, in the visible spectrum, between 0° and 100° C. The apparatus used was that of Benoit, slightly modified. The final result is given by the equation

$$(N - 1)10^6$$

$$= \left(288.02 + \frac{1.482}{\lambda^2} + \frac{0.0309}{\lambda^4} \right) \left(\frac{h}{760} \right) \left(\frac{1}{1 + 0.003716\theta} \right),$$

where λ is the wave-length in microns, θ the temperature in centigrade degrees.—Y. Rocard : The diffusion of light in fluids.—Mlle. M. Hanot : The width of the lines of the Balmer series in the oscillating discharge. For a given initial temperature and pressure, the maximum intensity of the current which traverses a slightly damped oscillating spark determines the width of the lines studied.—Bayen : The spark spectra of tungsten and mercury in the extreme ultra-violet.—R. Jouaust and P. Waguet : The use of the photo-electric cell for certain measurements in industrial photometry. In photometric measurements it is not, in general, possible to replace eye observations by a photo-electric cell, but in certain cases it is possible. One possible application of the cell is the preparation of standard electric lamps, and a description of the method used and precautions necessary is given.—J. Valentin and G. Chaudron : The solidification of the ternary alloys of aluminium, magnesium, and cadmium.—Edouard Urbain : The absorption of vapours by carbon. Defining the "compacity" of carbon as the ratio of the true volume to the apparent volume, absorption curves are given showing the amount of vapours of chlorine, chloropicrin, and benzene absorbed as a function of the compacity. In the case of benzene there is a maximum absorption for compacity 0.3.—Pierre Auger : The secondary β -rays produced in a gas by X-rays.—L. Hackspill and R. Grandadam : The displacement of the alkali metals by iron. At a moderately high temperature, in a vacuum, iron sets free the metals of the alkalis from their hydroxides ; in some cases it is possible to collect the alkali metal ; in others the presence of the metal can only be proved by the evolution of hydrogen in contact with steam.—Al. Orékhoff and Max. Roger : The semipinacolic deamination of some amino-alcohols. Amino-alcohols of the type $R.R'.C(OH).CH_2(NH_2)$, treated with nitrous acid, give the ketones $R.CO.CH_2.R'$.—Max and Michel Polonovski : Oxyserine and its derivatives.—Marcel Sommelet : Researches in the diphenylmethane series Trimethylbenzhydryl-ammonium bromide.—J. Grosjean and M. Dosios : The horizon of the Posidonomyes schists containing hydrocarbons of the Toarcian of the Franche-Comté Jura. Analyses of four schists are given, showing yields of oil. Separate analyses of the oils are appended.—E. G. Mariolopoulos : The rains sometimes observed with anticyclones.—René Fabre : The nature and variations of the aldehyde contained in the blood. There exists in the blood a volatile reducing substance possessing the characters of acetaldehyde.—G. Mouriquand, A. Leulier and P. Michel : Fluctuations of the iron in blood in the course of experimental scurvy.

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Official Publications Received.

- Anales del Museo Nacional de Historia Natural de Buenos Aires. Tome 31. Pp. iv+678. (Buenos Aires.)
 The Journal of the Institute of Metals. Vol. 32. Edited by G. Shaw Scott. Pp. xii+820+37 plates. (London : 36 Victoria Street, S.W.1.) 31s. 6d. net.
 University of California Publications in American Archaeology and Ethnology. Vol. 21, No. 3 : The Uhle Pottery Collections from Ica. By A. L. Kroeber and William Duncan Strong. With three Appendices by Max Uhle. Pp. 95-133+plates 25-40. (Berkeley : University of California Press.) 85 cents.
 Crichton Royal Institution, Dumfries. Eighty-fifth Annual Report, for the Year 1924. Pp. 45. (Dumfries.)
 Union of South Africa. Department of Agriculture (Division of Chemistry Series No. 51). Science Bulletin No. 35 : Profitable Potato Production ; Results of a Bethal Co-operative Experiment. By Thos. D. Hall. Pp. 14. (Pretoria : Government Printing and Stationery Office.)
 Annals of the Natal Museum. Edited by Dr. Ernest Warren. Vol. 5, Part 2, January. Pp. 101-234+plates 8-14. (London : Adlard and Son and West Newman, Ltd.) 15s. net.
 Proceedings of the American Academy of Arts and Sciences. Vol. 59, No. 16, December : The Bodily Proportions of Women in the United States ; based upon Measurements taken from one hundred Smith College Students. By Dr. Harris Hawthorne Wilder and Margaret Washington Pfeiffer. Pp. 439-603. (Boston, Mass.) 4.25 dollars.
 The Journal of the Royal Horticultural Society. Edited by F. J. Chittenden. Vol. 50, Part 1, January. Pp. 172+lxvii. (London : Vincent Square, S.W.1.) 7s. 6d.
 Royal Horticultural Society. Notices and Arrangements for the Year 1925 ; Report for the Year 1924, with Statement of Accounts ; List of new Fellows ; Horticultural Advertisements. Pp. 167+lxvii. (London : Vincent Square, S.W.1.)
 Carnegie Institution of Washington. Annual Report of the Director of the Department of Terrestrial Magnetism. (Extracted from Year book No. 23, for the Year 1924.) Pp. 145-186. (Washington.)
 Proceedings of the Edinburgh Mathematical Society. Edited by Dr. Archibald Milne and Dr. T. M. MacRobert. Vol. 42 (session 1923-24), Part 2. Pp. 61-112+VIII. (London : G. Bell and Sons, Ltd.)
 Annals of the Mededelingen van het Transvaal Museum. Vol. 11, Part 1 : The Sphegidae of South Africa. By Dr. George Arnold. Part 5 : On Cynodontia from the Middle Beaufort Beds of Harrismith, Orange Free State ; On a new Type of Thecodont from the Middle Beaufort Beds. By Dr. S. H. Houghton. Pp. 97+8 plates. (Cambridge : Printed at the University Press.)
 Armstrong College, Newcastle-on-Tyne. Standing Committee for Research : First Annual Report, 1923-4. Pp. 12. (Newcastle-on-Tyne.)
 Proceedings of the Society for Psychical Research. Part 92, Vol. 14, December. Pp. 201-341. (London : Francis Edwards.) 9s. net.

Diary of Societies.

SATURDAY, FEBRUARY 14.

- ROYAL INSTITUTION, at 3.—W. Rothenstein : The Artist's Relation to Social and Religious Life (I.).
 ROYAL COLLEGE OF SURGEONS OF ENGLAND, at 4.—Sir D'Arcy Power : Hunterian Oration.
 INSTITUTION OF STRUCTURAL ENGINEERS (Western Counties Branch) (at Royal Institution, Swansea), at 6.—G. B. R. Pimm : Piles and Pile Foundations.
 INSTITUTE OF BRITISH FOUNDRYMEN (Lancashire Branch, Junior Section) (at Municipal College of Technology, Manchester), at 7.—W. H. Meadowcroft : Some Foundry Experiences.
 INSTITUTION OF AUTOMOBILE ENGINEERS (at Loughborough Technical College), at 7.50.—Loughborough Graduates' Meeting.
 INSTITUTE OF METALS (London Local Section) (at Institute of Marine Engineers), at 7.30.—V. C. Faulkner : Some Notes on Refractory Materials.

MONDAY, FEBRUARY 16.

- ROYAL COLLEGE OF SURGEONS OF ENGLAND, at 5.—C. P. G. Wakeley : The Etiology, Pathology, and Treatment of Ectopic and Imperfect Descent of the Testis.
 ROYAL SOCIETY OF MEDICINE, at 5.30.—Dr. L. Williams, Col. R. McCarrison, Dr. W. Cramer, Dr. G. M. Findlay, and others : Special Discussion on Non-Specific Disturbances of Health due to Vitamin Deficiency.
 INSTITUTION OF AUTOMOBILE ENGINEERS (Birmingham Centre) (at Chamber of Commerce, Birmingham), at 7.—F. G. Woollard : British Methods of Continuous Production.
 JUNIOR INSTITUTION OF ENGINEERS (North-Western Section) (at 16 St. Mary's Parsonage, Manchester), at 7.15.—A. D. Young : The Design and Construction of the No. 5 Gas Holder for Burnley Corporation.
 INSTITUTION OF AUTOMOBILE ENGINEERS (Scotland Centre) (at Royal Technical College, Glasgow), at 7.30.—C. H. Macmillan : Marine Motor Installation.
 BRITISH ASSOCIATION OF CHEMISTS (Birmingham Section) (in Medical Theatre, Birmingham University), at 7.45.—Dr. F. W. Aston : Atomic Weights and Isotopes.
 ROYAL INSTITUTE OF BRITISH ARCHITECTS, at 8.—D. S. McColl : Sculpture in relation to Architecture.
 ARISTOTELIAN SOCIETY (at University of London Club), at 8.—Dr. J. Drever : The Meaning of Consciousness for the Psychologist.
 ROYAL SOCIETY OF ARTS, at 8.—Dr. W. Rosenhain : The Inner Structure of Alloys (Cantor Lectures) (I.).
 FARADAY SOCIETY (at Chemical Society), at 8.—Prof. A. J. Allmand and V. S. Puri : The Effect of Superposed Alternating Current on the Anodic Solution of Gold in Hydrochloric Acid.—Prof. C. H. Desch and