

tion, comparable with the 'acid gush' referred to above; on darkening, however, the oxygen content instantly falls.

W. J. V. OSTERHOUT and S. E. HILL: Reversal of the potassium effect in *Nitella*.

J. BONNER and E. R. BUCHMAN: Syntheses carried out *in vivo* by isolated pea roots (1). Isolated pea roots seem to synthesize vitamin B<sub>1</sub> from a mixture of its pyrimidine and thiazole components; a specific enzyme (thiaminase) seems to be involved. Another distinct and also specific enzyme (thioazolase) seems to be necessary to produce the vitamin thiazole required.

C. E. McCLUNG: Chromosome phylogeny. A discussion leading to the view that the linear order of the elements of the chromosomes represents the addition of parts to meet the growing complexity of higher forms, that this is connected with a temporal sequence and that, in the reaction system which constitutes the cell, one chromosome establishes a balance in relation to the others which is determinative in shaping the characters of the body.

B. H. WILLIER and MARY E. RAWLES: Feather characterization as studied in host-graft combinations between chick embryos of different breeds. Feathers in a graft area are produced by the host feather germs, but their colour or pattern is under the control of the graft.

K. W. COOPER: Concerning the origin of the polytene chromosomes of Diptera. Growth of the tissues, which is largely by increase of size of cells rather than increase of number, is related to growth in number of chromonemata occurring in these large chromosomes; possibly the nuclei prepare for pro-phasic condensations which by some means are prevented from occurring.

F. B. SUMNER and P. DOUDOROFF: (1) Some effects of light intensity and shade of background upon the melanin content of *Gambusia*. Melanin content of the mosquito fish is correlated with brightness of the background to which it is subjected for some weeks. (2) Effects of light and dark backgrounds upon the incidence of a seemingly infectious disease in fishes. Its incidence was highest in black bowls, and is possibly due to the same agency as that which affects the melanin.

M. HERZBERGER: Theory of transversal curves and the connexions between the calculus of variations and the theory of partial differential equations.

G. A. MILLER: Relative numbers of the sub-groups and operators of certain groups.

J. L. WALSH: Interpolation and approximation by functions analytic and bounded in a given region.

K. MENGER: A new foundation of non-Euclidean, affine, real projective and Euclidean geometry.

J. DOUGLAS: A Jordan space curve having the infinite area property at each of its points.

## Appointments Vacant

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

LECTURER IN CHEMISTRY in the Kingston-upon-Thames Technical College—The Principal (December 31).

LECTURER IN PHYSICS AND CHEMISTRY in the Barbados—The Secretary (I.P.R./C.A.), Board of Education, Whitehall, S.W.1 (January 2).

ORGANIZER OF AGRICULTURAL EDUCATION in West Suffolk—The Chief Agricultural Officer, Shire Hall, Bury St. Edmunds (January 7).

LECTURER IN GEOGRAPHY in the Portsmouth Municipal College—The Registrar.

## Reports and other Publications

(not included in the monthly Books Supplement)

### Great Britain and Ireland

Transactions of the Royal Society of Edinburgh. Vol. 59, Part 3, No. 20: Studies on Plumage in the Male Brown Leghorn Fowl. By Dr. J. P. Chu. Pp. 533-562+5 plates. (Edinburgh: Robert Grant and Son, Ltd.; London: Williams and Norgate, Ltd.) 7s. [2311]

Board of Trade. Statistical Abstract for the British Empire for each of the Ten Years 1928 to 1937. (Cmd. 5872.) Pp. xviii+337. (London: H.M. Stationery Office.) 5s. net. [2311]

University of Liverpool: Social Science Department, Statistics Division. Handbook of Social Statistics relating to Merseyside. Pp. 32. (Liverpool: University Press of Liverpool.) 1s. net. [2311]

Association of Bird Watchers and Wardens. Report of the Nest Adoption Scheme for 1938. Pp. 4. (Haslemere: Educational Museum.) [2411]

Universities Bureau of the British Empire. Report of the Executive Council together with the Accounts of the Bureau for the Year 1st August 1937 to 31st July 1938. Pp. 26. (London: Universities Bureau of the British Empire.) [2411]

British Empire Cancer Campaign. Fifteenth Annual Report of the Grand Council. Edited by J. P. Lockhart-Mummery. Pp. viii+270. (London: British Empire Cancer Campaign.) [2511]

Ministry of Agriculture and Fisheries: Fisheries—England and Wales. Salmon and Freshwater Fisheries: Report for the Year 1937. Pp. 59. (London: H.M. Stationery Office.) 1s. 6d. net. [2811]

The Teaching of General Science. Part 2. Science Masters' Association Final Report of the Sub-Committee appointed in 1935, adopted by the General Committee in 1938. Pp. vii+79. (London: John Murray.) 2s. 6d. [2911]

Forestry Commission. Report of the National Forest Park Committee (Forest of Dean), 1933. Pp. 9+1 map. (London: H.M. Stationery Office.) 6d. net. [2911]

British Rubber Publicity Association. Rubber and Agriculture Series, Bulletin No. 8: The Uses and Possibilities of Rubber in Agriculture. By Alexander Hay. Pp. ii+25. (London: British Rubber Publicity Association.) Free. [3011]

Medical Research Council. Special Report Series, No. 231: Report on Radium Beam Therapy Research, 1934-1937. By Constance A. P. Wood, L. G. Grimmett, T. A. Green and others. Pp. 77+22 plates. (London: H.M. Stationery Office.) 4s. net. [3011]

### Other Countries

Report of the Forest Department of British Honduras for the Year 1937. Pp. 16. (Belize: Government Printer.) [2411]

The Aims, Methods and Activity of the League of Nations. Revised edition. Pp. 221. (Geneva: League of Nations; London: George Allen and Unwin, Ltd.) 2s. [2411]

Osiris, Vol. 5. Pp. 601. (Bruges: St. Catherine Press, Ltd.) [2511]

Statens Meteorologisk-Hydrografiska Anstalt. Meddelanden. Band 7, No. 4: Ytttemperaturen i Svenska Vattendrag. Av Ragnar Melin. Pp. 17. 1.50 kr. Meddelanden, Serien Uppsatsar, No. 23: Hydrometer-Beschreibungen. Von Tor Bergeron. Pp. 24. Meddelanden, Serien Uppsatsar, No. 25: Hydrologisk Bibliografi, år 1937. Pp. 13. (Stockholm: Statens Meteorologisk-Hydrografiska Anstalt.) [2811]

Annual Report of the Public Health Commissioner with the Government of India for 1936. Vol. 2. Pp. vi+135. (Delhi: Manager of Publications.) 1.10 rupees; 2s. 9d. [2811]

Indian Central Cotton Committee: Technological Laboratory. Technological Bulletin, Series A, No. 44: Further Tests on the Combining of Good Quality Indian Cottons. By Dr. Nazir Ahmad. Pp. ii+25. (Bombay: Indian Central Cotton Committee.) 1 rupee. [2811]

Coconut Research Scheme (Ceylon). Bulletin No. 2: Report on the Illuminating Powers of Lamps burning Coconut and Kerosene Oils. By Dr. J. P. Andrews, V. Appapillai and R. Subramaniam. [Pp. iv+17. (Lunuwila: Coconut Research Scheme.) 2811]

Geological Survey of Uganda. Memoir No. 4: Soil Erosion and Water Supplies in Uganda. By E. J. Wayland and N. V. Brasnett; with Appendices on Water Supply, by C. B. Bisset, and on Soils and Soil Erosion in Karamoja, by Dr. W. S. Martin. Pp. iv+89+6 plates. (Entebbe: Government Printer.) 7s. 6d. [2811]

Journal of the Indian Institute of Science. Vol. 21A, Part 25: Hydrogenation of Oils by the Continuous Process. Part 3: Isomerisation of Ethyl Oleate by Nickel Carbonate—Kieselguhr Catalyst. By V. T. Athavale and S. K. K. Jatkar. Pp. 295-306. 1 rupee. Vol. 21A, Part 26: Hydrogenation of Oils by the Continuous Process. Part 4: Kinetics of the Hydrogenation of Groundnut Oil by Precipitated Nickel Catalysts. By V. T. Athavale and S. K. K. Jatkar. Pp. 307-320. 1 rupee. (Bangalore: Indian Institute of Science.) [2811]

League of Nations: Advisory Committee on Social Questions. The Recreational Cinema and the Young. (Official No.: C.256.M.152. 1938.IV.) Pp. 31. (Geneva: League of Nations; London: George Allen and Unwin, Ltd.) 9d. [2811]

U.S. Department of the Interior: Geological Survey, Bulletin 885: Geology and Ore Deposits of the Lordsburg Mining District, Hidalgo County, New Mexico. By Samuel G. Lasky. Pp. v+62+25 plates. 1.25 dollars. Bulletin 891: Geology and Mineral Resources of the Honeybrook and Phenixville Quadrangles, Pennsylvania. By F. Bascom and G. W. Stose. Pp. v+145+11 plates. 65 cents. Bulletin 895-D: Geophysical Abstracts 91, October-December 1937. Compiled by W. Avazoglou. Pp. ii+137-204. 15 cents. Professional Paper 189-B: Igneous Geology and Structure of the Mount Taylor Volcanic Field, New Mexico. By Charles B. Hunt. (Shorter Contributions to General Geology, 1937.) Pp. iv+61-80+plates 7-10. 45 cents. Water-Supply Paper 831: Surface Water Supply of the United States, 1937. Part 11: Pacific Slope Basins in California. Pp. vii+358. 45 cents. (Washington, D.C.: Government Printing Office.) [2811]