

300-400 yd., and as many as three straight-through joints in series have been pulled out, the cores occasionally being broken inside the lead sheathing.

The restoration of supply has been much simplified by the existence of the grid and by the commendable foresight shown in providing a pool of apparatus upon which undertakings may call in emergency.

Incidentally, while it is essential to restore supplies as soon as possible, this does not mean that personnel should take unnecessary risks or attempt feats beyond their powers of endurance. There is a scarcity of trained engineers and it is foolish for them to risk their lives unnecessarily during raids, particularly men fully trained in the layout of networks. It is a great mistake to rush every available man to the scene of the damage, and to have too many of them at the same spot where they might all be put out of action by a single bomb.

One mitigating feature of the widespread bombing in some districts has been that it has assisted substantially in the change-over from D.C. to A.C.

Should property be demolished and the distributor damaged or severed in a crater, supplies may be restored by temporarily pot-ending the cable ends at each side of the crater, and making alive both ways. In the event of debris preventing access to the cable in the crater, the cable may be excavated and cut at points remote from the crater and pot-ended in the same way. One undertaking has adopted the unique expedient of dropping a new section of distribution cable in the crater, filling up around with cement and making permanent joints at the ends. When the work of clearing up the crater is nearly complete, an empty duct is laid in case the cement encased cable should fail at a later date.

Another ingenious example may be mentioned, in which all the high-voltage cables of two substations were hit by high explosive bombs. In order to restore supplies, temporary cables had to be run across a wide main road clear of the crater and other services involved. The road consisted of granite sets laid on 9 in. concrete, and as time could not be spent in breaking up the wide main road, about five rows of granite sets 7 in. deep were removed, the concrete road beneath remaining undisturbed. Wooden rails (4 in. × 3 in.) were laid in the sides of the trench, and 8 in. × 3-in. boards as long as the trench width were laid across to form a wooden bridge over the five 0.20-sq. in., 6.6 kv. cables required. The top boards were covered with earth, and main-road traffic passed over this run for many weeks. Perhaps even more effective is the digging of the smallest possible trench, running in armoured cable, and filling in solid with cement.

FORTHCOMING EVENTS

(Meeting marked with an asterisk is open to the public.)

Monday, February 9

ROYAL GEOGRAPHICAL SOCIETY (at Kensington Gore, London, S.W.7), at 8 p.m.—Sir Malcolm Watson: "Geographical Aspects of Malaria".

Tuesday, February 10

ILLUMINATING ENGINEERING SOCIETY (at the E.L.M.A. Lighting Service Bureau, 2 Savoy Hill, London, W.C.2), at 2.30 p.m.—Short Contributions on Problems in Illuminating Engineering of the Present Time and in Post War Reconstruction.

Wednesday, February 11

ROYAL SOCIETY OF ARTS (at John Adam Street, Adelphi, London, W.C.2), at 1.45 p.m.—Mrs. Darcy Braddell: "The Post-War Home—its Interior and Equipment". 5: "Common Sense in Furniture Design".

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (at 17 Bloomsbury Square, London, W.C.1), at 2.30 p.m.—Dr. Philip Hamill: "Prescribing in War-Time".

PHYSICAL SOCIETY (COLOUR GROUP) (in the Physics Department, Imperial College of Science and Technology, Imperial Institute Road, London, S.W.7), at 2.30 p.m.—Annual General Meeting. Dr. W. D. Wright: "Research on Colour Physics at South Kensington, 1877-1942".

SOCIETY OF CHEMICAL INDUSTRY (FOOD GROUP) (at the Chemical Society, Burlington House, Piccadilly, London, W.1), at 2.30 p.m.—Dr. N. W. Pirie, Dr. T. Moore, and others: "Green Leaves as a Source of Protein and other Nutrients".

Thursday, February 12

ROYAL INSTITUTION (at 21 Albemarle Street, London, W.1), at 2.30 p.m.—Dr. C. H. Waddington: "Some Biological Discoveries of Practical Importance".*

Friday, February 13

ROYAL SOCIETY OF ARTS (INDIA AND BURMA SECTION) (at John Adam Street, Adelphi, London, W.C.2), at 1.45 p.m.—Mr. A. J. Gibson: "The Story of Lac".

ROYAL ASTRONOMICAL SOCIETY (at Burlington House, Piccadilly, London, W.1), at 4.30 p.m.—Anniversary Meeting.

APPOINTMENTS VACANT

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

HEADMASTER—The Clerk to the Governors, Rutlish School, Merton, London, S.W.19 (March 14).

TEACHER OF MATHEMATICS (man or woman)—The Principal, South-West Essex Technical College, Forest Road, Walthamstow, London, E.17.

REPORTS and other PUBLICATIONS

(not included in the monthly Books Supplement)

Great Britain and Ireland

Recommendations for the Computation of Heat Requirements for Buildings: as embodied in the Guide to Current Practice issued to its Members by the Institution of Heating and Ventilating Engineers. Pp. iii+41. (London: Institution of Heating and Ventilating Engineers.) 1s. 9d. [19]

Other Countries

Cornell University: Agricultural Experiment Station. Bulletin 753: Further Studies of the Influence of Different Levels of Fat Intake upon Milk Secretion. By L. A. Maynard, J. K. Loosli and C. M. McCay. Pp. 18. Bulletin 755: Soil and Pasture Management for Long Island, New York. By A. P. Gustafson and D. B. Johnstone-Wallace. Pp. 44. Bulletin 757: The Alfalfa Snout Beetle, its Control and Suppression. By Charles E. Palm, Charles Lincoln and A. B. Buchholz. Pp. 50. Bulletin 758: Clover Leafhopper (*Aceratagallia sanguinolenta* Prov.). By T. C. Watkins. Pp. 24. Bulletin 759: Costs and Returns for the Cabbage Enterprise, 1938 and 1939. By R. W. Hoecker. Pp. 60. Bulletin 760: Rural Public-Welfare Administration and Finance in New York. By E. A. Lutz. Pp. 72. Bulletin 761: Prices of Apple Varieties as a Factor in Variety Selection. By M. D. Woodin. Pp. 20. Memoir 239: Price Flexibility and Price Movements in the United States and other Countries. By Mark T. Buchanan. Pp. 25. Memoir 238: The Influence of Age and Rate of Breeding upon the Ability of the Female Rat to reproduce and raise Young. By S. A. Asdell, R. Bogart and G. Sperling. Pp. 26. Memoir 236: Biology and Ecology of the Alfalfa Snout Beetle. By Charles Lincoln and Charles E. Palm. Pp. 45. (Ithaca, N.Y.: Cornell University.) [11]

Southern Rhodesia. Memoirs of the Department of Agriculture, No. 3: Further Studies in the Physiology and Behaviour of *Glossina morsitans*, Westw. By Rupert W. Jack. Pp. iii+56. (Salisbury: Government Stationery Office.) [11]

Cooper Union for the Advancement of Science and Art. Eighty-second Annual Report, July 1, 1941. Pp. 162. (New York: Cooper Union.) [21]

The Physical State of the Upper Atmosphere. By B. Haurwitz. (Reprinted from the *Journal of the Royal Astronomical Society of Canada*, October 1936-February 1937, with Addition October 1941.) Pp. viii+96. (Toronto: Royal Astronomical Society of Canada.) 75 cents. [61]

U.S. Office of Education: Federal Security Agency. Vocational Division Bulletin No. 209 (Agricultural Series No. 54): Building Electrical Equipment for the Farm. By W. A. Ross, W. P. Beard, Jay Deiss and Lee C. Prickett. Pp. vi+87. 20 cents. Vocational Division Bulletin No. 213 (Home Economics Education Series No. 24): Home Economics in Public High Schools, 1938-39. Pp. vii+114. 20 cents. (Washington, D.C.: Government Printing Office.) [61]

Commonwealth of Australia: Council for Scientific and Industrial Research. Pamphlet No. 109: Studies of the Physiology and Toxicology of Blowflies, 8: Rate of Ammonia Production by Larvae of *Lucilia cuprina* and its Distribution in this Insect, 9: The Enzymes Responsible for Ammonia Production by Larvae of *Lucilia cuprina*. By F. G. Lennox. Pp. 64. (Melbourne: Government Printer.) [61]

The Measurement of Self-Diffusion in Zinc: a Dissertation in Physics presented to the Faculty of the Graduate School in partial fulfilment of the requirements for the Degree of Doctor of Philosophy. By Floyd R. Banks. Pp. 8. (Philadelphia: University of Pennsylvania.) [91]