

which fuse at the vitrification temperature of the porcelain as generally used in high-voltage insulator manufacture.

Glazes which are applied to the finished ceramic article and which are fused in a second firing at a lower temperature behave differently and are not able to increase the mechanical stress of the ceramic article. In contradistinction to high-voltage insulator glazes, this type of glaze must contain strong fluxes like lead oxide, etc., which are not present in the porcelain body. These glazes form, with the surface layer of the porcelain, combinations which may behave very differently from the body. The composition of the glaze does not in this case play so predominating a part as in the case of high-tension insulator glazes.

In insulator design, much use is made of the strengthening effect of the glaze on insulator bodies. Previously, the attachment of the porcelain to the metal work was facilitated by the provision of unglazed or partially glazed surfaces in contact with cement. In present-day designs, in place of the conventional form of insulator head, a smooth and unbroken glazed surface—especially in the design of cap-and-pin insulators—has been introduced. Other types which make use of the strengthening effect of the glazes on insulator bodies are the solid-core line and station post insulators, and the so-called motor and long-rod insulators which are used on the Continent to a very great extent as suspension and strain insulators.

## FORTHCOMING EVENTS

Friday, January 1

ROYAL GEOGRAPHICAL SOCIETY (at Kensington Gore, London, S.W.7), at 2.30 p.m.—Miss Evelyn Cheesman: "Camps in New Guinea" (First Christmas Lecture).

## APPOINTMENTS VACANT

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

ANALYTICAL CHEMIST to the City of York Electricity Department—The City Electrical Engineer, Electricity Offices, Clifford Street, York (endorsed 'Chemist') (December 31).

HEADMASTER of Felsted School—The Clerk to the Governors, Mr. Norman Orfeur, Solicitor, Braintree, Essex (December 31).

CHIEF LAND DRAINAGE OFFICER—The Executive Officer, Bucks War Agricultural Executive Committee, County Offices, Aylesbury, Bucks (Jan. 1).

LECTURER IN CHEMISTRY at the Brighton Technical College—The Education Officer, 54 Old Steine, Brighton, 1 (Jan. 8).

HEAD of the Engineering Department—The Principal and Clerk to the Governing Body, Wigan and District Mining and Technical College, Wigan (January 9).

LECTURER IN MECHANICAL ENGINEERING in the Oxford Schools of Technology, Art and Commerce—The Chief Education Officer, City Education Office, 77 George Street, Oxford (Jan. 17).

DIRECTOR of the National Froebel Foundation—The Secretary, National Froebel Foundation, 2 Manchester Square, London, W.1 (February 27).

CHAIR of MINING—The Secretary, the University, Edmund Street Birmingham, 3 (March 1)

TWO CHEMISTS in the MINISTRY of SUPPLY whose duties would be of an advisory, non-experimental nature—The Ministry of Labour and National Service, Central (Technical and Scientific) Register (Reference F.651), Sardinia Street, Kingsway, London, W.C.2.

## REPORTS and other PUBLICATIONS

(not included in the monthly Books Supplement)

### Great Britain and Ireland

Abstracts of Dissertations approved for the Ph.D., M.Sc., and M.Litt. Degrees in the University of Cambridge during the Academic Year 1940-1941. Pp. 120. (Cambridge: At the University Press.) [412

University of Cambridge: Solar Physics Observatory. Report for the Year 1941 October 1 to 1942 September 30. Pp. 2. (Cambridge: Solar Physics Observatory.) [1112

Geology and Geologists in the War and the Peace. A Talk given before the Parliamentary and Scientific Committee by Prof. H. H. Read. Pp. 20. (London: Parliamentary and Scientific Committee.) [1412

The London Naturalist. The Journal of the London Natural History Society for the Year 1941. Pp. 52. (London: London Natural History Society.) 8s. 6d. [1712

Geological Survey of Great Britain: England and Wales. Wartime Pamphlet No. 8: British Phosphates, Part 4: Occurrences of Phosphate in Pre-Cretaceous Rocks. By Dr. Kenneth P. Oakley. Pp. 27. 1s. 6d. Wartime Pamphlet No. 13: Limestones of Scotland, Area 7: Northern and North-Western Scotland. By Dr. T. Robertson, J. Knox and Dr. J. G. C. Anderson; with Analyses by Dr. A. Muir and H. G. M. Hardie. Pp. 36. 1s. 9d. (London: Geological Survey and Museum.) [1712

The London Bird Report for 1941: an Annual Report on Bird-Life within Twenty Miles of St. Paul's Cathedral. Edited by R. S. R. Fitter, assisted by R. W. Hale and E. R. Parrinder. Pp. 20. (London: London Natural History Society.) 1s. 6d. [1712

Scottish Office. Report of the Committee on Hydro-Electric Development in Scotland. (Cmd. 6406.) Pp. 38. (London: H.M. Stationery Office.) 9d. net. [1712

British Empire Cancer Campaign. Nineteenth Annual Report, 1942. Edited by J. P. Lockhart-Mummery. Pp. 86. (London: British Empire Cancer Campaign.) [1812

Proceedings of the Royal Irish Academy. Vol. 48, Section A, No. 3: Early Stages of Dark Adaptation in the Central Parts of the Retina. By R. W. Ditchburn and E. J. Power-Steele. Pp. 55-89. 2s. Vol. 48, Section B, Nos. 5-6: Oxygen Consumption in relation to Temperature and Fatty Acid Composition in the Frog and Earthworm; The Influence of Fatty Acids on the Oxygen Consumption of the Tissues in relation to Temperature and the Theory of Temperature Regulation. By J. M. O'Connor. Pp. 85-103. 1s. Vol. 48, Section B, No. 7: A Note on the Morphology and Cytology of the Branchiae of *Carcinus maenas*. By J. D. Smyth. Pp. 105-118+plate 1. 1s. (Dublin: Hodges, Figgis and Co., Ltd.; London: Williams and Norgate, Ltd.) [1812

### Other Countries

Scientific Publications of the Cleveland Museum of Natural History. Vol. 5, No. 6: The Ohio Recent Mammal Collection in the Cleveland Museum of Natural History. By B. Patterson Bole, Jr., and Philip N. Moulthrop. Pp. 83-101. (Cleveland, Ohio: Cleveland Museum of Natural History.) [312

Astrographic Catalogue 1900-0. Sydney Section, Dec. -51° to -65°, from Photographs taken at the Sydney Observatory, New South Wales, Australia. Vol. 23: R.A. 12h. to 18h., Dec. -56° to -58°, Plate Centres Dec. -57°. Pp. ii+96. (Sydney: Government Printer.) [1412

South Australia: Institute of Medical and Veterinary Science. Fourth Annual Report of the Council, July 1941-June 1942. Pp. 12. (Adelaide: Institute of Medical and Veterinary Science.) [1412

Proceedings of the California Academy of Sciences, Fourth Series. Vol. 23, No. 34: Reef Corals from the California Middle Eocene. By J. Wyatt Durham. Pp. 508-510+plate 4. (San Francisco: California Academy of Sciences.) [1412

U.S. Department of Agriculture. Leaflet No. 225: Protecting Market Sweet Corn from the European Corn Borer. By W. A. Baker, D. D. Questel and C. H. Batchelder. Pp. 7. (Washington, D.C.: Government Printing Office.) 5 cents. [1412

U.S. Office of Education: Federal Security Agency. Education and National Defense Series, Pamphlet No. 20: How Rural Youth may Serve. Pp. vi+34. (Washington, D.C.: Government Printing Office.) 15 cents. [1412

Solar Prominences in Motion. By Robert R. McMath. (From the Smithsonian Report for 1940.) (Publication 3634.) Pp. 121-130+6 plates. (Washington, D.C.: Smithsonian Institution.) [1412

Smithsonian Miscellaneous Collections. Vol. 103, No. 4: Archeological and Geological Investigations in the San Jon District, Eastern New Mexico. By Frank H. H. Roberts, Jr. (Publication 3692.) Pp. ii+30+9 plates. (Washington, D.C.: Smithsonian Institution.) [1412

Cooper Union for the Advancement of Science and Art. Eighty-third Annual Report, July 1, 1942. Pp. iii+173. (New York: Cooper Union for the Advancement of Science and Art.) [1412

University of Cape Town. Communications from the School of African Studies. New Series No. 4: Notes on Archaeological Method with Special Reference to South African Conditions. By A. J. H. Goodwin. Pp. ii+27. 2s. 6d. New Series No. 5: The Bored Stones of Southern Africa, Part 2: Prehistoric Types of the North-Eastern and Central Regions of the Union. By A. J. H. Goodwin. Pp. ii+25. 2s. (Cape Town: University of Cape Town.) [1512

Bulletin of the American Museum of Natural History. Vol. 80, Art. 5: The Sexual Behavior of *Aura*, 1: The Normal Mating Pattern of *Rana pipiens*. By G. Kingsley Noble and Lester B. Aronson. Pp. 127-142+1 plate. (New York: American Museum of Natural History.) [1712

U.S. Department of Agriculture. Circular No. 657: Mineral-Oil Treatment of Sweet Corn for Earworm Control. By George W. Barber. Pp. 16. Farmers' Bulletin No. 1906: Insect Pests of Stored Rice and their Control. By August I. Balzer. Pp. ii+22. 5 cents. (Washington, D.C.: Government Printing Office.) [1712

### Catalogues

A Catalogue of Books, consisting largely of Recent Miscellaneous Purchases, including works on Bibliography and Manuscripts, Botany, English History and Literature, Fine Arts, Natural History, and a Selection of New and Recent Publications. (No. 605.) Pp. 44. (London: Bernard Quaritch, Ltd.)