medical service other than first-aid treatment. Occupational disease is similarly reported.

California's industry has become more diversified recently, and the three industries with the highest injury (including occupational sickness) rates were agriculture, construction, and manufacturing. Skin conditions accounted for over 75% of all reported incidents, poison oak being implicated in nearly one-third of these; cement was another not uncommon cause of dermatitis.

The rate of occupational disease for agriculture was more than two and a half times the rate in all industries. Illness arising from the use of agricultural chemicals has more than doubled in the last six years, probably due to the increase in use of the more toxic pesticides. Farm labourers, who constitute the bulk of the workers in agriculture, are generally unskilled and uneducated and often live under adverse conditions of poor housing, sanitation, and nourishment.

Among some newer agents causing disability were borane compounds, lithium hydrides, nitrogen oxides, and other chemicals now used as high energy fuels.

There were 58 occupational disease reports attributed to lead, 53 to carbon monoxide, 37 to carbon tetrachloride, 10 to mercury, and five to beryllium.

T. G. FAULKNER HUDSON

Gewerbehygiene und Klinik der Kieselgursilikose zugleich ein Beitrag zur Gewerbehygiene Lungenaggressiver Staube. By E. Wende. (Pp. x + 104; 30 figures + 9 tables. DM. 20.) Darmstadt: Dr. Dietrich Steinkopff. 1962.

The author of this little book gives the physical and chemical properties of Kieselguhr, better known to us as infusorial or diatomaceous earth, and describes how it is won, dried, and refined in the quarries and works on the Luneburg Heath. The raw material consists of 80 to 90% amorphous silica along with water and organic impurities. The impurities are burnt off by heating the earth in kilns with brushwood as fuel. The product known as "calcined" Kieselguhr may contain some cristobalite if the temperature is high enough to effect the conversion of some amorphous silica. In the manufacture of material for filters, 2% sodium chloride is added to the earth which is heated to temperatures of 1,000° to 1,200°C. The product, which is called in Germany "activated" Kieselguhr and in the United States "flux-calcined" Kieselguhr, contains from 40 to 60% of cristobalite. Although the raw material may contain a negligible amount of quartz due to the sand which covered it, its dust does not produce lung fibrosis. The author says that the differences of opinion over the silicogenic action of Kieselguhr have arisen because the alterations in the nature of the silica produced by heating have not been appreciated.

Medical aspects are dealt with in a study of 165 cases arising in the Luneburg area. The early radiographic appearances in cases arising from exposure to calcined earth dust and activated earth dust are similar—an increase of the normal lung markings. In later stages the shadowy opacities produced by activated earth are symmetrical. There is no stage of nodulation, and egg-shell calcification of the hilar glands was not seen. A typical silicosis was however found in workers who sieved powdered earth

to free it from sand and were thus exposed to quartz dust. There is some resemblance to the radiographic picture of asbestosis, but the fibrotic changes in Kieselguhr cases are not more marked towards the bases as they are in asbestosis; the fluffy heart border is not a feature of the Kieselguhr film. Clinically the basal crepitations often found in asbestosis are not found in Kieselguhr pneumoconiosis nor are the fingers clubbed. The author did not find pseudoasbestos bodies in the sputa he examined, although they have been described as present. They have however been found at necropsy in the lung tissue of Luneburg Heath workers. It is unfortunate that the investigation of lung function in the 13 cases which are fully described was limited to vital capacity estimations. It would have been interesting if deficiencies of gas exchange had been found similar to those found in asbestosis.

The preventive measures, technical and medical, are fully described. The calcining furnaces now to be used are such that the temperature cannot exceed 900° C. so that cristobalite is not produced. All the processes, milling, sieving, sacking, and transporting, are enclosed and mechanized. To avoid materials containing free silica being handled carelessly in ignorance, it is advocated that the producer should give warning of the danger of inhaling the dust. Periodical medical and radiological examinations are at present carried out at two-yearly intervals. This interval is considered too long, as cases have occurred in 22 months. In view of the fine character of the early changes, the use of enlargement of the film by the fine focus technique is advised.

This booklet will be the standard work of reference on the subject of Kieselguhr pneumoconiosis and should be consulted by all interested in that subject. Dr. Wende feels that the publication of his experience is justified because of its value in solving the problems of dangerous dusts in general. It will have considerable importance because of his method of facing these problems.

CHARLES L. SUTHERLAND

Principles Governing Consumer Safety in Relation to Pesticide Residues. Report of a Meeting of a W.H.O. Expert Committee on Pesticide Residues held jointly with the F.A.O. Panel of Experts on the Use of Pesticides in Agriculture. Wld Hlth Org. tech. Rep. Ser. No. 240. (Pp. 18. 1s. 9d.) Geneva: World Health Organization; London; H.M.S.O. 1962.

This report outlines principles for establishing tolerances for pesticide residues in food and those of consumer safety, and indicates how these principles might be put into practice. The committees accept the fact that pesticides must be used in all countries but emphasize the need for the development of new compounds which will act selectively against a particular pest while being non-toxic to man, farm animals, and wild life.

The terms "residue", "food factor", "acceptable daily intake", "permissible level", and "tolerance" are defined to avoid the confusion that has arisen in the past from the use of these terms. The report indicates how the data necessary to enable tolerances to be established may be acquired and used, and discusses the measures by which government officials may control the use of pesticides. An

international pesticide information service, which would make available scientific data and recommendations on all aspects of the use of pesticides, is advocated since much of the available information remains unpublished or is dispersed widely in a variety of journals and other publications.

Among the recommendations of the committees are suggestions for further research into such matters as the effects that pesticides may have on the nutritive value of food, the chemical changes which may take place in the residue during food processing, improved methods of assessing toxicity, and studies to define the principles and procedures for determining "insignificant and inconsequential intakes". Governments are urged to cooperate fully in implementing the recommendations.

P. L. BIDSTRUP

Advanced First Aid No. 1. "How Much Blood?" (52s. 6d. inclusive of teaching notes.) London: Camera Talks. 1962.

Since the film was first reviewed (*Brit. J. industr. Med.*, 20, 70) an amended version of the lecture notes has been published. This new version is a great improvement on the original and has eliminated the errors with regard to frames 40, 41, and 42.

R. A. TREVITHICK

BOOKS RECEIVED

(Review in a later issue is not precluded by notice here of books recently received.)

Department of Industrial Health. Tata Services Limited Annual Report, 1961. (Pp. 30; illustrated.) Bombay: Tata Services Private Ltd. 1962.

Industrial Accidents, Sickness and other Absences. Tavistock Pamphlet No. 4. By J. M. M. Hill and E. L. Trist. (Pp. 58; illustrated. £5 5s.) London: Tavistock Publications. 1962.

British Journal of Diseases of the Chest. Volume LVI, No. 4, October, 1962. Edited by J. R. Belcher and J. Smart. (18s.) London: Baillière, Tindall and Cox. 1962.

Chemical Carcinogenesis. By David B. Clayson. (Pp. viii + 467; with charts. 72s.) London: Churchill. 1962.

Artificial Respiration: Theory and Application. Edited by James L. Whittenberger. (Pp. x + 276; 104 figs. \$10.50. 80s.) New York and London: Hoeber Medical Division. 1962.

Joint FAO/WHO Expert Committee on Nutrition. Sixth Report. Wld Hlth Org. Techn. Rep. Ser. No. 245. (Pp. 65. 5s.) London: H.M.S.O. Geneva: World Health Organization. 1962.

Bericht über das Gesundheitswesen in Österreich im Jahre 1961. Herausgegeben vom Bundesministerium für soziale Verwaltung in Zusammenarbeit mit dem österreichischen statistischen Zentralamt. (Pp. 205; 11 figures + tables. S. 55.-.) Wien: Republik Österreich Bundesministerium für soziale Verwaltung. 1962.

An Industrial Hygiene Study in a Ferro-manganese Plant. Report No. 22. (Pp. 33; 4 figures + 19 tables.) New Delhi: Ministry of Labour and Employment, Government of India. 1962.

Hygienic Food Handling. By Betty C. Hobbs and J. S. McLintock. (Pp. 45; 30 figures. 3s.) London: St. John's Ambulance Association. 1962.

Joint ILO/WHO Committee on Occupational Health: Problems in Agriculture. Wld Hlth Org. Techn. Rep. Ser. No. 246. (Pp. 63. 3s. 6d.) Geneva: World Health Organization; London: H.M.S.O. 1962.

Milk Hygiene: Report of Food and Agriculture Organization of UNO and WHO. Wld Hlth Monograph Ser. No. 40. (Pp. 782. £3.) Geneva: World Health Organization; London: H.M.S.O. 1962.

The Regulation of Human Respiration Symposium. Edited by D. J. C. Cunningham and B. B. Lloyd. (Pp. 591; with illustrations. 90s.) Oxford: Blackwell Scientific Publications. 1963.

Treatment of Acute Poisoning, 3rd ed. By E. H. Beasley and G. E. Joran. (Pp. 227. 15s.) Edinburgh: E. & S. Livingstone, Ltd. 1963.

Principles of Rehabilitation. By Russell Grant. (Pp. 76; with illustrations. 12s. 6d.) Edinburgh: E. & S. Livingstone, Ltd. 1963.

NOTICE

Fifteenth Conference of the British Occupational Hygiene Society

As its contribution to the series of symposia planned by the Joint Health Physics Committee, the Society's Fifteenth Conference will be held on Tuesday, July 9, 1963, in the London School of Hygiene and Tropical Medicine, Keppel Street, London W.C.1. The theme of the conference is "Legislation and Codes for the Safe Use of Ionizing Radiation".

The conference will be open to all members of the British Occupational Hygiene Society and also to non-members on payment of a registration fee.

Application should be made to the Honorary Scientific Secretary, Dr. J. Steel, Department of Industrial Health, The Medical School, King's College, Newcastle-upon-Tyne 1.