is probably related to the large turnover mentioned above, the interrupted service, and the relatively low total years of service. In 1947, there were 58 cases (0.64 per 1,000) and 4 deaths (0.05 per 1,000). The pneumonia rate was 33.72 per 1,000, tuberculosis 2.39 per 1,000, and influenza 33.08 per 1,000. There were 12 cases of enteric fever, 22 of scurvy, and 2 of pellagra. There were 6 cases of heat stroke with 3 deaths.

K. M. A. Perry.

Legislacion Sobre Seguridad e Higiene del Trabajo. Published by the Spanish Ministry of Labour, with appendix for 1947. Pp. 202. No price given.

This volume deals with occupational safety and hygiene. It refers to legislation as early as 1900, from which date it would appear that the Spanish Government began to investigate and control industrial conditions more thoroughly than before. The book is in sections devoted to industrial accidents, including those occurring in agriculture or at sea. The insurance measures con-

cerning these are also described, and the regulations designed to limit their incidence. Certain diseases are recognized as of occupational origin and are the reason for special precautionary and compensation legislation. The Ministry of Labour has a statistical department and also controls or suggests scientific investigation of accidents and occupational diseases. It has a staff of medical and lay factory inspectors, and appears to take particular care of women and children in industry. Their employment is completely prohibited in many occupations, and much restricted in others. There is special legislation to deal with women in the period before and after childbirth. This volume is not a complete description of all legislation, but rather a supplement describing recent additions or modifications thereof. The illustrated "safety first" posters are particularly well designed and worded. The worker's attention is drawn to the existence of a safety committee at his place of employment, and he is exhorted to keep in touch with it for mutual advantage.

G. C. Pether.

ABSTRACTS

(This section of the JOURNAL is published in collaboration with the two abstracting Journals, *Abstracts of World Medicine*, and *Abstracts of World Surgery, Obstetrics, and Gynaecology*, published by the British Medical Association. The abstracts are divided into the following sections: toxicology; industrial physiology; industrial lung disease; industrial dermatitis; accidents and orthopaedic surgery; industrial ophthalmology; environment; general. Not all sections will necessarily be represented in any one issue)

TOXICOLOGY

Exposure to D.D.T. ANDERSON, A., and KHORRAM, M. A. (1948). *Brit. med. J.*, 1, 1132.

A survey was made of 32 persons exposed more or less continuously for 9 months to DDT in oil. Sprayers who used 3 to 4% DDT in kerosene as a residual spray were liable to absorb the drug through the skin and by inhalation. Workers who used 2.5% DDT in a 75% gas-oil and 25% fuel-oil mixture for the control of mosquito larvae were also liable to absorb the drug through the skin, as were the workers employed in mixing the two solutions. A comparison of the exposed group with a control group of 36 men in similar social circumstances and of similar nutrition (although of higher average age) revealed no difference in the average weight and blood pressure after the 9-month exposure. Vesiculation was observed in the sprayers where the straps of the spraying machine had chafed, but this was thought to be due to the kerosene. No significant signs or symptoms were noted in the exposed group, the recording of tremor of the hands in 9 men being regarded as doubtful. The urine of the exposed group was examined for organically bound chlorine but none was found, and it is suggested that this is not a reliable method for estimating absorption of DDT. It is concluded that the continued use of 3.1% DDT in kerosene, without protective clothing, is not likely to give rise to toxic effects. A plea is put forward for the use of a less noxious solvent than kerosene, or the increased use of emulsions of DDT.

Rachel MacHatton.

The Treatment of Acute Poisoning Produced by Gamma Hexachlorocyclohexane. MCNAMARA, B., and KROP, S. (1948). *J. Pharmacol.*, 92, 147.

The high toxicity of the γ -isomer ("gammexane") of hexachlorocyclohexane and the expected widespread use of it as an insecticide present possible poisoning hazards. Suitable treatment is suggested by the authors' findings that the marked hypertension and central stimulatory effects of gammexane do not occur in dogs given pentobarbital, and that gammexane action is antagonized by other isomers of hexachlorocyclohexane. In addition, the structurally related *i*-inositol (hexahydroxycyclohexane), which is a growth factor for certain yeast strains, is known selectively to antagonize the toxic effect of gammexane on certain yeast strains. Massive dose of *i*-inositol administered prophylactically to rabbits over prolonged periods before the administration of lethal doses of gammexane (6 mg. per kg.) failed, however, to lower the mortality significantly.

The prophylactic intravenous administration to rabbits of 20 mg. per kg. of pentobarbital markedly reduced the toxicity of gammexane given intravenously, and afforded protection against 10 times the lethal dose. [Phenobarbitone is also stated by the authors in their comment and conclusions to be effective against the intravenous toxicity of gammexane.] The antidotal value of the α , β , and δ isomers of gammexane is much inferior to that of pentobarbital.

Gammexane administered orally to rabbits in the form of a 10% solution in peanut oil produced in 30 minutes to 4 hours symptoms qualitatively similar to