pneumoconiosis with cor pulmonale was studied with cardiac catheterization data on four.

In a more detailed investigation of cases from the original group of miners with isolated arterial desaturation, the diffusing capacity for oxygen was measured by the Riley method, and anatomical venous admixture by breathing 31.5% O₂ during exercise. Although the validity of these methods is open to question, the results show that neither of these factors is sufficient to account for the major portion of arterial desaturation in pneumoconiosis. Distribution of inspired gas measured by the nitrogen wash-out technique was found to be abnormal in 29 to 31.5% of cases of simple pneumoconiosis and 45% of cases of complicated pneumoconiosis (details of these experiments are published elsewhere). From these results by a process of exclusion the author concludes that the most potent cause of desaturation is ventilation perfusion inequality. This conclusion is in keeping with modern concepts but will await the application of recently developed techniques for experimental verification. The author devotes two chapters to methods and techniques employed, and all chapters are amplified by a discussion and review of the literature. The final chapter is devoted to the practical use of parameters of respiratory function in assessing disability, particularly in relation to Belgian law, and stresses that the F.E.V.₁ is still the best test. Exercise desaturation, although a more specific test, does not necessarily imply incapacity, but its presence should alert one to the possibility of development of pulmonary hypertension.

The book is well worth the perusal of anyone interested in pulmonary physiology and its relation to coal-workers' pneumoconiosis. There is a five-page summary in English.

J. D. ABERNETHY

Occupational Disease in California attributed to Pesticides and other Agricultural Chemicals. Copies are available free upon request as long as the supply lasts from the Bureau of Health Education, California State Department of Public Health, 2151 Berkeley Way, Berkeley 4, California.

This report is in most ways a model of what a report should be. The main text not only gives a clear account of its subject, which leads the reader easily through a fairly intricate break-down of the data, but also places the subject in its larger context. The data are presented in full in reference tables at the end. The increase in clarity and ease of reading fully justifies the repetition involved.

But there is a *caveat*. At various points in the text and in the title the phrase 'attributed to pesticides' is used. It seems reasonable to doubt whether such attribution by physicians, some of whom presumably had no great experience in diagnosing the effects of agricultural chemicals, was always correct, and no evidence is given that these cases were followed up or confirmed by experts in the field. This impression finds confirmation in the report. Skin effects accounted for 60% of the attributions, and in half of these the chemical believed to be responsible was not stated. This is a pity. California provides the most extensive 'field trial' in the world of the overall

hazards of the use of pesticides. Probably nowhere else are they used so intensively, or within one State under a much wider range of climate, from the temperate conditions of the San Francisco Bay area to the great heat in other regions. Some of the labour force, especially in the San Joaquin Valley area, is not highly skilled, and is also Spanish-speaking, so that there were language difficulties in conveying information on safe practices, which was reflected in a higher incidence of poisoning. And the Bureau of Occupational Health is obviously well qualified to extract the most from the results. As it is, there is at least a chance that the incidence of minor cases has been exaggerated, and the figures quoted must be regarded as maximal for the groups covered.

The report does not cover the self-employed or family labour, which represents about one-third of the total labour force, and, of course, it excludes amateur gardeners. Of those covered, the incidence of cases was 2.2 per 1,000 amongst agricultural workers, but 5.1 per 1,000 amongst contract sprayers and the like. Warehouse workers and loaders provided 11% of the cases. The figures represent a fall of 9% on the previous year. The organic phosphate insecticides were responsible for two-thirds of the cases of systemic poisoning, and one of them, Parathion, caused the only fatality. The worker absorbed it through the skin from a splash on his trousers. He was wearing a respirator and rubber gloves, and his apparent ignorance of the danger from skin absorption suggests a serious failure to convey essential information about this and many other pesticides.

A particularly tragic figure is given which is incidental to the main subject. In the period 1951-63 70 children died from agricultural poisons. In the same period there were 26 occupational fatalities. Adults can be educated to use these materials safely, and, as the Report shows, some success has been achieved. Children can only be protected by a sense of responsibility in adults.

D. F. HEATH

International Symposium on the Medical Inspection of Labour (Geneva, April 18-29, 1963.) ILO Document MLI/1963/W.P.8. (Duplicated; Pp. 47.)

Under various titles and as officers of the Ministry of Labour or the Ministry of Health, most countries employ physicians with a legal responsibility in occupational health. It was to bring together such physicians to discuss their mutual problems that the I.L.O., in collaboration with W.H.O., arranged this symposium, the first of its type since 1926.

Several I.L.O. instruments (Conventions and Recommendations) contain provisions regarding the need for qualified persons to assist inspectorates in maintaining high standards of working conditions, but in the changing field of occupational health it was felt that there would be advantage in taking stock of the present position to compare practice and training in the advanced countries in order to help the developing countries to organize their medical labour inspectorates.

The subjects discussed were: (a) the role, functions, and responsibilities of the medical labour inspectorate; (b) the technical and administrative powers required by the

medical labour inspectorate in order to perform its duties effectively; (c) the training required by medical practitioners assigned to medical labour inspection and necessary or desirable facilities for providing such training; and (d) miscellaneous questions directly connected with the above items.

Varying historical, political, and administrative factors determine the organizational framework in which the medical inspector operates and the nature of the job he does. The basic criteria, however, are professional independence and unrestricted access to places of employment with power to take samples and to examine workers for occupational diseases. This involves on his part professional and technical secrecy combined with the absence of any financial interest. His duties will include advising on the application of legislation, giving information to educate management and workers, and supervising medical examinations of special groups. He will be particularly concerned with occupational diseases, with human factors in safety, and in maintaining liaison with other authorities. In certain circumstances he may be concerned with workers' nutrition.

In order to exercise these powers effectively, it is desirable to have a central department with a geographical distribution of medical inspectors according to industrial concentration, each medical inspector having a wide knowledge of occupational hazards, though he may specialize in the main industry of his particular area. The report discusses in detail the routine to be observed in first and subsequent visits to factories and the conduct and publication of the results of enquiries and research projects together with the resources necessary in terms of laboratories and technical and statistical personnel (though this last is more idealistic than a practical objective for developing countries). The Annual Report is recognized to be of great value.

The small number of medical inspectors employed in any one country make the question of training largely a gradual accretion of knowledge by experience, but the symposium decided that not only was basic training in occupational health essential but that a willingness to learn a wide range of related subjects was essential. In addition to the practical experience gained in the job, regional and international training courses and regular meetings of medical inspectors were regarded as valuable aspects of the training of the medical inspector and in keeping him up to date.

Other medico-social topics which it was considered might come within the ambit of the medical inspector were the problems of migrant workers, the construction

of short-term labour camps, seasonal workers, automation, the psychological aspects of accidents and labour relations, and the problems of people who feel economically obliged to do two jobs.

If the medical inspectorate of any country performs satisfactorily a quarter of the functions contained in this document, then it deserves congratulation. We should all like to see medical inspectors so well trained and equipped, but when will the historical, political, and administrative circumstances conspire to give him the opportunity? There is no harm in setting your standards high, and one can only hope that from all these high-sounding sentiments the 22 participants took away at least a resolution to put *some* of the recommendations into effect before the next meeting.

R. MURRAY

Notices

Society of Toxicology

The annual scientific and business meeting of the Society of Toxicology will be held in Williamsburg, Virginia on March 8, 9, and 10, 1965. Anyone interested may attend.

At the 1964 annual meeting, 70 scientific papers in all phases of toxicology were presented. Abstracts of these appeared in the journal of the Society (*Toxicology and Applied Pharmacology*, 6, 340-365, 1964).

Papers for the 1965 meeting may be submitted or must be sponsored by members of the Society. Additional information about the meeting may be obtained from the Secretary: Mr. Carrol S. Weil, Mellon Institute, 4400 Fifth Avenue, Pittsburgh, Pennsylvania.

University of Cincinnati

A Symposium in Occupational Skin Problems will be held at the Kettering Laboratory, Cincinnati, Ohio, from October 12 to 15, 1964.

University of Manchester

A Course for Industrial Medical Officers will be held in the Department of Occupational Health, University of Manchester, from November 2 to 6 inclusive, 1964. Application should be made to the Secretary, Nuffield Department of Occupational Health, University of Manchester, Clinical Sciences Building, York Place, Manchester 13.