derivates have been given with good results. Under a recent Italian law all workers using vibrating tools are required to undergo an annual medical examination.

In some ways Italian law seems ahead of that of other countries, particularly in the recognition and introduction of regulations to limit new hazards. Thus beryllium was early recognized as a highly toxic material and those working with it appear to be adequately safeguarded. This is also the case with the industrial use of fluorides.

This book is attractively produced and contains many useful illustrations and figures.

G. C. PETHER

Die Staublungenerkrankungen, Vol. III. Reports of the third international conference on dust diseases of the lung held in 1957 at Munster University. (Pp. xvi + 607; 319 figures. DM. 62.00.) Darmstadt: Dr. Dietrich Steinkopff Verlag.

This volume contains reports of the third international conference on dust diseases of the lung held in 1957 in the department of hygiene and industrial medicine of Munster University.

The first part is devoted to fundamental research with particular reference to the effects of silicates.

The next part deals with trace elements and the relationship between them and the formation of silicotic lesions. A group of contributors investigated the effects of various constituents of the dust to which workers in the Ruhr coalfields are exposed.

The relationship between emphysema, bronchitis, and silicosis received attention and the importance of cor pulmonale when these are present was noted. Some contributors consider that there is a constitutional factor operating in some cases of emphysema and it has been shown that examination at necropsy will give not only an accurate measure of the elasticity of the lung but also of the capacity of its vessels. Elasticity is highest when growth ceases and is little altered until the fiftieth year after which it falls.

The vessels in a silicotic lung degenerate so that in time various complications such as thrombosis or even obliteration occur. Pulmonary sclerosis is common, and though some ascribed it to the effects of an existing high pulmonary pressure, others thought it might sometimes be linked with locally occurring sclerosis and thrombotic processes.

To diminish the incidence of silicosis it is necessary not only to keep workers under constant observation but also to be able to change their work before much damage has been done. In Switzerland the intervals between systematic examination of employees vary from trade to trade so that miners, depending on age, are seen every year, or two years, while workers in other industries with a dust hazard are seen less often. Should evidence of undue sensitivity to dust be apparent soon after work begins, it is considered reasonable to advise that a different occupation be chosen.

In the last section of the book a number of interesting individual contributions is found. Some deal with the association of pulmonary tuberculosis with dust diseases

and the difficulty of diagnosis of this condition on radiographic evidence alone is stressed.

A new material invented by Krupp and known as *hartmetall* has come into industrial use. It has about 95% of the hardness of diamonds and is made from tungsten carbide, cobalt, titanium carbide, and tantalum carbide. These are mixed together and then fused at a temperature of 1400 to 1600°C.

In 1940 the first cases of lung damage attributed to *hartmetall* were notified.

It appears that the individual constituents may each have harmful effects. One worker took up employment at the age of 21 but by his 27th year had such severe dyspnoea that he had to give up. The clinical picture is similar to that seen in the aluminium industry in the Rhein-Main area. Spectrographically the lung had a high content of tungsten and titanium but less cobalt. There is evidence that the liver as well as the lung may suffer in this industry.

Lung injury from vegetable dusts received attention from an English contributor and in the discussion the value of microscopic examination of lymph nodes from the scalenus area was described. This procedure is commonly used in Sweden.

In the field of prophylaxis the value of aerosols is discussed and in some animal experiments certain aluminium preparations gave good results.

This book contains much interesting material, though much of it is necessarily speculative or controversial.

G. C. PETHER

The Pneumoconiosis Problem: With Emphasis on the Role of the Radiologist. By Eugene P. Pendergrass. (Pp. x + 146; 53 figures. 51s.) Oxford: Blackwell Scientific Publications; Springfield, Illinois: Charles C. Thomas. 1958.

This book, by an eminent American radiologist who has made many valuable contributions during the past 30 years to the literature of the pneumoconioses, is concerned with silicosis, asbestosis, and coal workers' pneumoconiosis. No attempt has been made at an exhaustive treatise which would have been impossible in a work of this length but many facets of the history, pathogenesis, clinical and physiological features of pneumoconiosis are presented, compensation issues are touched on, and the radiological changes are considered in greater detail. The author's wide experience and judicious selection of the world literature has resulted in a very well balanced account of these three pneumoconioses. The reproductions of the chest radiographs, so important to the success of a book of this kind, are printed as negatives and are of a sufficiently high standard to illustrate the points being made, though No. 23 has unfortunately been reproduced upside down.

The author's recommended radiographic routine for workers in an industry with a dust hazard (six pre-employment chest films repeated five yearly with a single film during the intervening years) seems excessive but apart from this one reservation "The Pneumoconiosis Problem" can be strongly recommended.

I. T. T. HIGGINS