

screening, suction and bagging to the dust of the dried separated fibrous silicate, in which all the cases of asbestosis developed. Among the 22 cases of asbestosis found by radiography and confirmed post-mortem, there was no mention of any cases of cancer of the lungs. More clinical and occupational data on these cases would have been desirable. On the basis of the findings elsewhere, 1 or 2 cases of lung cancer would have been expected. On the experimental side Cartier implies that his clinical data are confirmed by exposure of animals to the two kinds of dust.

Cartier makes two statements of considerable interest as to the severity of asbestosis among his miners.

(1) During his 3 years of clinical observation (more than 10,000 complete medical examinations) no worker has died of uncomplicated asbestosis under the age of 60 years, even after 20-30 years' severe exposure to asbestos dust; nor has he seen among asbestosis cases as severe cyanosis or dyspnoea as that seen in asthmatics, lung cancer or advanced tuberculous cases. From this he concludes that pure asbestosis is not as severe a disease as it is considered in Great Britain and elsewhere where manufacturing processes are carried out with the separated asbestos.

(2) Pure asbestosis, often even radiologically very advanced, is found among workers who show no clinical signs, no diminution of respiratory function and can without discomfort carry out their habitual tasks.

The claim by Cartier amounts to this, that asbestosis as usually described is really a mixed disease, complicated by cardiopathies and even tuberculosis, and that "pure" asbestosis as seen by him is by no means a severe condition. Having been in close association with such notable authorities as Gardner and Vorwald, these statements cannot be ignored because of relatively short experience of the industry. It may be that Cartier considers a life of 60 years amply sufficient for the relatively few cases who develop the disease severely enough to die from it. He does not, however, in this paper give the populations at risk so that we cannot calculate essential data. It may be relevant to his thesis that the population around the Thetford mines is almost entirely dependent upon them for their "gagne-pain".

Cartier's second statement is, however, borne out by the case of Franchini and Canepa. It will be recalled that whereas the general view in Great Britain is that the symptomatic picture is more severe in asbestosis than in silicosis, the reverse view is held in America. The long period of absence of symptoms has been known for many years, but the diminution in vital capacity is demonstrable even when the worker is perhaps unwilling to admit any respiratory abnormality. As was pointed out over 20 years ago by Merewether and Price (1930) and Merewether (1930), the worker is inclined to attribute his discomforts to causes other than his work.

A more normal case history is that given by Luton, Champeix and Faure (1951) who describe what is stated to be the first case of asbestosis reported in France. This was a man aged 62 years who, having worked for 11 years

in an asbestos cloth (air) complained of. Radiographically the lobes until he died. Kind: diffuse fibrotic nodules with giant cells. Dust particles were. No mention is made of discount the possible pulmonary tissues.

We have been at evidence in the literature than a verbal attribution of the fibrotic effects to sharp "insoluble" King, Clegg and R theory of Gardner, lungs of rabbits to fibres. Gardner mentioned, with an innocuous, big picture from those of silica. Nevertheless, King of small (2.5 μ) per fibrous tissue reaction walls with hyperplasia of giant-cell reaction easy enough to larger fibres (15 μ) overlapped by a fixed the asbestos.

King, Clegg are somewhat acellular comparable to, if that the lung does.

In respect of s were insufflated, wall and fail to case of Luton and discharged into. histico-workers, of the liver, kidney. Summing up on the effects.