

because the silica content of the dusts is low. He also finds that the evidence does not support the view that incidence of the disease varies directly with the total dust concentrations. He concludes, then, that the difference in incidence of pneumoconiosis must be due to variations in the coal particles themselves. He classifies the coal dusts of the region as V, Va, F, and D coal, according to the predominance of vitrainous, (Va refers to an opaque modification of vitrainous), clarainous, fusainous, and durainous coal—the so-called macerals. In addition to petrological examination, a macerological study has been made by extracting the coals with a solvent and comparing the amounts of the extract by chromatographic methods. The dominant substance extracted has been termed "vitricin" (British Provisional Patent). Vitricin is found in V-coal to a much greater extent than in any other type. Lignite is rich in vitricin. The author has found good correlation between the vitricin content of coals and the incidence of pneumoconiosis in the mines where they prevail. Moreover, it has been demonstrated that the vitricin extracts inhibit the growth of *B subtilis* and the human type of tubercle bacillus. Larger scale experiments are in progress to investigate that point more thoroughly. Vitricin is apparently non-toxic and can be administered in large quantities. Briefly the author's conclusion is that some grades of coal are relatively harmless because they contain an antibiotic.

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- 995 Coalworkers' Pneumoconiosis. So-called "Anthraco-Silicosis."  
C. M. Fletcher. *Beit. z. Silikose-Forschung*. Nos.18-20, 119-150  
(1951). English and German.

The pathology of pneumoconiosis of coal miners, a very important problem in Great Britain, is so different from that of classical silicosis that the word "silicosis" should not be used. The terms "coal pneumoconiosis" or "coal miners' pneumoconiosis" are preferable to "anthraco-silicosis." Two main types of pathological changes are found: (1) "simple pneumoconiosis," with focal dust deposition, focal emphysema and a minimal fibrotic reaction, and (2) "complicated or infective pneumoconiosis," with additional massive collagenous fibrosis. Disability occurs only in the second type, and evidence is produced to show that the massive fibrosis is caused by tuberculous infection in a lung already affected by coal dust deposition. Radiographic appearances corresponding to both types are described and illustrated. Neither the total dust exposure nor the silica content of the dust has been correlated with the prevalence of pneumoconiosis. A radiographic classification of pneumoconiosis has been recommended by the International Labour Office and is now used in Great Britain and to a limited extent in other countries. The author pleads for wider acceptance of this classification in order to achieve greater international understanding in the study of pneumoconiosis.

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-- Cond. from Author's Summary