

fractive index in the fiber direction, with n_y most near 1.70 but varying down to 1.63. No clear evidence was obtained for the presence, in the lung dust, of crocidolite or chrysotile.

In a later publication Beger (1949/1950) questioned the identification by Sundius and Bygdén, of the asbestos as a hornblende variety and tried to prove that they had in fact been studying a chemically altered chrysotile, but his arguments do not seem convincing.

The only later work to be mentioned here is that of Beattie and Knox (1961). These authors examined samples of lung, lymph glands, and pleura of 50 people who had been exposed to asbestos, mainly chrysotile, for prolonged periods. They distinguished four grades of asbestosis, none, minimal, moderate, and severe, and determined the amount of mineral dust obtained by ashing the tissue samples and extracting the ash with one-tenth normal (0.1 N) hydrochloric acid. They expressed these weights as mg./gm. dried tissue.

TABLE 1
LUNG DUST ANALYSES IN ASBESTOSIS, AFTER BEATTIE AND KNOX (1961)

	Grade of Asbestosis			
	None	Minimal	Moderate	Severe
Number of cases	16	14	8	11
Mineral content mg./gm. dried lung*	4.1	4.3	6.9	5.3
Dust exposure, years	16	18	27	24
Survival, years	3	7	6	10
Dust accumulation, mg./gm. per year exposed	0.27	0.24	0.25	0.21

*Five mg./gm. equals 1 gm. in a pair of lungs of 200 gm. dry weight.

We are concerned here only with the data for the lungs, which are summarized in TABLE 1. There is no clear correlation between the average lung dust concentration and the grade of asbestosis; but the lungs with the highest grade of fibrosis had the longest survival interval (period between end of dust exposure and death) and the lowest calculated dust accumulation rates.

Beattie and Knox also counted and measured the asbestos fibers in the residues, and they found that in severe asbestosis the proportion of longer fibers (above 15 μ) to all fibers or particles was considerably lower than in the three other grades, but they say nothing about the nature of the

fibers, or what proportion was recognizable as fibers.

The Lung Dust C

Several years ago a Mines Research Estate of asbestosis. Most of the London Pneumoco Research Unit in Car minimal, moderate, or

aria given by Beattie In most cases whole representative sample samples were minced, ground lung were as determined chemically treated with 0.1 N hydrochloric acid for X-ray diffraction.

The object of the analysis was completely as possible little as possible. Expect Rhodesia (previously sample), and with normal hydrochloric acid at 100°C was finally used as a control.

AVERAGE QUANTITIES

Residue per cent dried

Mean
Range
No. of samples

Residue in grams in b

Mean
Range
No. of samples

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