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ABSTRACT OF THE LITERATURE OF INDUSTRIAL HYGIENE

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Anaesthetized cats were given intratracheal insufflations of fine bismuth carbonate, bismuth subnitrate and lead glass powders by means of a powder blower inserted through a bronchoscope. Fluoroscopy and roentgenograms demonstrated that in the dry state these radio-opaque minerals were not carried into the terminal air spaces but remained adherent to the walls of bronchi lined with ciliated epithelium. The process of removal could be readily followed. The column of dust on the mucosal surface moved upward with a spiral motion. Neutral bismuth carbonate was usually completely eliminated in 1 to 4 days, the acid subnitrate was excreted slightly more rapidly and the lead glass had disappeared in from 7 hrs. to 2 days. The reaction of the mineral did not affect the rate of elimination, a result at variance with those of other observers. If the particles were suspended in fluid either saline or thin syrup, they were carried into the terminal alveoli from which they were slowly excreted by the bronchial route over periods of weeks. No evidence of drainage to lymph nodes could be discovered. The authors suggest that inhalation of dust in the dry state might be less dangerous than if it were moist. The presence of sufficient amounts of water might permit the mineral particles to penetrate beyond the protective ciliary epithelium and allow gradual accumulation in the lungs.—L. U. Gardner.

✓ OCCUPATIONAL CANCER IN ASBESTOS WORKERS. M. Nordmann. *Ztschr. f. Krebsforsch.*, vol. 47, pp. 288-302 (1938).

The author reports on 2 cases of lung cancer of which he made the pathological-anatomical examination. He reports likewise on the clinical aspects of Hornig's case (see following abstract) and on a 55 yr. old man who had worked in asbestos from his 36th to 43rd years. Autopsy showed asbestosis and in the left upper lobe a markedly necrotic, cornified squamous celled epithelioma. The author mentions 4 additional cases of cancer with asbestosis in the literature and one must agree with him that, in view of the small number observed and the very few cases of asbestosis autopsied (12 cases in Germany), the

number of cancers found is a very high one. Of these 6 cases, the site of the cancer in 5 cases was the lower lobes, in five there was a squamous-celled epithelioma. Three of the victims were less than 43 yrs. old; in all, work with asbestos had begun 15-21 yrs. before. After all, the author seems quite right in seeing a causal relation between asbestosis and lung cancer.—L. Teleky.

✓ CLINICAL CONSIDERATIONS ON THE QUESTION OF INDUSTRIAL CANCER OF ASBESTOS WORKERS. F. Hornig. *Ztschr. f. Krebsforsch.*, vol. 47, pp. 281-287 (1938).

A 35 year old woman who worked in an asbestos factory from 1919-1928 fell ill of asbestosis; in 1937 a sharply defined shadow was seen roentgenologically in the upper left lobe. This shadow was considered by the author to be a carcinoma and in the decision on the case, a causal relation between the presence of asbestosis and the development of carcinoma was accepted. Confirmation at autopsy of the diagnosis of lung carcinoma is presented in a paper by Nordman (preceding abstract).—L. Teleky.

EXPERIMENTAL INVESTIGATION OF THE SCHNEEBERG LUNG CANCER QUESTION. H. R. Döhnert. *Ztschr. f. Krebsforsch.*, vol. 47, pp. 209-239 (1938).

In a very exact manner, with regard to the pertinent literature, and with careful consideration of all factors, the author reports on the tumors found in mice kept in the Schneeberg mines. In the experiment were 48 animals of whom 28 died. Of these, 26 were given careful pathological and anatomical examination; the other two were sent to another Institute for examination of their radioactivity. In 7 animals, tumors were found; in two of them, multiple tumors in various organs. Since the experimental animals came from almost tumor-free stock, the number of tumors found is a high one. In two cases there were true epithelial lung tumors, in two, ulcers of the mediastinum, in the other 3 cases there were tumor-like, more or less generalized changes of the lymphatic system. After careful consideration, the author blames the ra-