

Perfusion experiments on isolated legs of guinea-pigs and frogs also showed a slowing down of flow with increasing silica concentration from 25 $\mu\text{gm. SiO}_2/\text{ml.}$ upwards.

Isolated hearts of frogs showed no effects with 50 to 100 $\mu\text{gm. SiO}_2/\text{ml.}$ but showed reduced movement at a higher silica concentration.

Large intravenous silica injections were necessary to reduce blood pressure in anaesthetized rabbits and cats. Isolated guinea-pig lungs, however, perfused with silica solutions through the trachea, showed increased resistance to flow at very low silica concentrations (50 $\mu\text{gm. SiO}_2/\text{ml.}$).

Contraction of smooth muscles by silica solutions was also demonstrated with frog lung and trachea preparations.

All these observations are considered to be due to an astringent action (tanning) of the silica on the collagenous portion of the interstitial tissues of an irreversible kind.

The author considers it likely that quartz dust in the lungs can by dissolving build up silica concentrations above 25 $\mu\text{gm. SiO}_2/\text{ml.}$, the lowest he found to have any effect at all, and this should initiate fibrosis of the lungs, especially if removal of the dissolved silica is inhibited by lymph blocking and compression of capillaries.

G. Nagelschmidt

LEICHER, F. Primärer Deckzellentumor des Bauchfells bei Asbestose. [Primary Cortical-Cell Tumour of the Peritonium in a Case of Asbestosis] *Arch. f. Gewerbepath. u. Gewerbehyg.* 1954, v. 13, No. 4, 382-92, 10 figs. [Numerous refs.]

The case reported here was that of a man aged 53 who had been employed for 26 years, in the period 1919-51, spinning coarse yarn and asbestos; during 16 years of that time he had been exposed to high concentrations of asbestos dust. In 1937 slight asbestosis was diagnosed; in 1947 he had pleurisy with effusion, and in 1950, in a routine examination, calcified tuberculous foci were found scattered over both lungs, without active disease. In 1951 asbestos bodies were found in the sputum and severe symptoms occurred in the chest and back; in 1952 fresh infiltration in the lungs with haemoptysis occurred, and later leptomeningitis supervened, with tubercle bacilli in the spinal fluid, and he died with cachexia.

Autopsy showed tuberculous disease of the lumbar spine with bilateral psoas abscess and mixed infection in both lungs. Asbestosis, stage II, was found in the lungs with diffuse fibrosis; there was slight asbestosis in lymphatic glands and asbestos bodies were found in the spleen. On the peritoneum of the mesentery and over the peritoneal cavity there were thickened patches and many small nodules from a pin head to a millet seed in size; a flat tumour, half the size of a hand and 1 cm. in thickness, was attached to the peritoneum on the under surface of the diaphragm. The results of the histological examination of the tumour are fully described, illustrated and discussed; no typical asbestos fibres or asbestos bodies were found after careful search, but asbestos was found in the tissues of the tumour

by X-ray diffraction examination. It is uncertain how the asbestos reached the peritoneal cavity; the most probable route was thought to be by direct penetration by the asbestos fibres from the lung through the pleura and thence through the diaphragm.

E. L. Middleton

SANDER, O. A. Foundry Workers' Pneumoconiosis. *Arch. Indust. Hyg. & Occupational Med.* Chicago. 1954, Dec., v. 10, No. 6, Sect. 1, 512-21, 12 figs.

Results of an X-ray survey made in 1934 of men employed in an iron foundry [this *Bulletin*, 1933, v. 13, 856] are compared with recent X-ray findings of a number of the same men. During 20 years many improvements have taken place with regard to exposure to dust inhalation. First among silico-producing processes was sand-blasting. Today sand has been replaced by steel shot as an abrasive for castings. Where sand is used air-helmets are worn. Moulding exposed men to silica dust when sand was used in parting compounds. Today non-silica parting compounds are used. Occasionally coal dust is employed in the parting compound; it may give rise to some anthraco-silicosis which is seldom serious.

Cleaning of large castings remains a risk; here core and moulding material may be converted by the high temperatures at pouring (3,000°F.) into cristobolite and tridymite, the dust of which is worse than quartz. Hand chipping for cleaning is now done with kerosene on the scale. Further, castings are being cleaned in "wheel abraters" before chipping and grinding.

There remains grinding, formerly done on sandstone wheels with the production of much dangerous dust; today grinding wheels are made of corundum and aluminium oxide, which emit inert dust.

The article is illustrated with numerous X-ray pictures showing how men found with pneumoconiosis at the earlier survey have hardly progressed under modern conditions of dust control.

E. L. Collis

RÜTTNER, J. R. & STOFER, A. Getreidestaub-Pneumoconiose. [Grain-Dust Pneumoconiosis] *Schweiz. med. Woch.* 1954, Dec. 25, v. 84, No. 52, 1433-6, 7 figs. [13 refs.]

This is a case of pneumoconiosis occurring in a grain miller. He had occasionally dressed the grindstones, which were siliceous, but otherwise had no exposure to dust except in the grain mill.

The symptoms and course of the disease resembled those of silicosis; radiographs showed shadows chiefly at the roots of both lungs gradually extending to involve the bases. He died of increasing heart failure, with widespread oedema, ascites and congestion of the liver and lungs. Autopsy showed moderately severe fibrosis of the lungs, thickened pleura and fibrotic changes in the lymph glands, bullous emphysema, chronic bronchitis, cylindrical bronchiectasis and bilateral hydrothorax, hypertrophy of the right heart and changes in other organs. Histological examination showed tissue changes resembling those of silicosis but sections of lung and lymph glands showed no evidence of mineral particles,