algae, quartz powder) and filter media (calcium carbonate, sand, anthracite) show the generality of application. Values calculated from the solutions were compared with experimental data. There is agreement between the theoretical and experimental values, indicating that the approach is valid for the analysis and design of rapid filters.

-- APCA Absts.

370 Byssinosis in the Egyptian Cotton Industry: Changes in Ventilatory Capacity During the Day. M.A. EL Batawi, R.S.F. Schilling, F. Valic, and Joan Walford. Brit. J. Ind. Med. 21, 13-19 (Jan. 1964).

A study in Egypt of 99 male cotton workers in a cotton ginnery and spinning mill, and of a control group of 12 power station workers, showed that the groups exposed to cotton dust had significantly greater falls in indirect maximum breathing capacity (IMBC) during the shift than groups not exposed to dust. Long-term effects of exposure to cotton dust were studied by examing the IMBC's measured at the beginning of the shift after adjustment to allow for differences in age and sitting height. The adjusted mean value for those with byssinosis was 10.1 liters/min. lower than for normal cotton workers and 19.6 liters/min. lower than for the power station workers. Four men were judged by their breathlessness on slight exertion and low ventilatory capacities to be seriously disabled by byssinosis. In four other mills, all spinning similar types of cotton, changes in IMBC during the shift correlated highly with dust concentrations and indicated a safe level of dustiness of 1 mg./cu. m. (total dust) at which the effects on ventilatory capacity were minimal. -- Authors' abst.

371 The Mortality of Miners and Ex-Miners in the Rhondda Fach. A.L. Cochrane, et al. Brit. J. Ind. Med. 21, 38-45 (Jan. 1964).

A 6-year follow-up of 6,474 miners and ex-miners, originally radiographed in 1950-1951, has been completed. They represent 97% of all those who were then resident in the Rhondda Fach. In addition, 2,750 non-miners living in the same area were also studied . Death certificates were obtained for all of those who had died, including those who had left the area. Standardized mortality ratios (SMR's) have been calculated for the various age and x-ray category groups. The results suggest that :(1) Progressive massive fibrosis (PMF) is a more serious disease than a previous study suggested; (2) the SMR of miners and ex-miners without PMF is also significantly raised; (3) there is no sign of any relation between the x-ray category of simple pneumoconiosis and the SMR; and (4) the SMR of ex-miners is significantly higher than that of miners.

-- Authors' abst.

372 Evaluation of Experimental Methods in the Determination of the Fibrogenic Dusts. II. The Subsutaneous Method. J.S. Harington, et al. Brit. J. Exptl. Pathol. 44, 117-124 (April, 1963).

The development of nodules in guinea pigs, produced at the site after the subcutaneous injection of silica, was studied over a period of 18 weeks in respect to the dry and wet weights of the nodules, to the silica, collagen, fat, and amino sugar contents, and to the histological assessments over this period of time. The dry and wet weights of the nodules increased significantly, and the silica content of the nodules remained constant during the course of the experiment. The amount of collagen dropped after 10 weeks and then increased, but there was no detectable change in the fat and amino sugar content. The nodule on a dry-weight basis consists of 60-80% of material probably of a cellular nature, which accounts for the increase in weight over time. The experiment did not produce any useful intercorrelations between silica, collagen, fats, and amino sugars. The findings suggest that the experiment was terminated at a stage when true silicotic collagenization had not yet occurred, at which later stage more marked variations among the constituents might have been expected. The subcutaneous method would therefore seem to be too time-consuming for general experimental use in assessing the complete fibrogenic action of silica, and for this reason must give precedence to the intratracheal method, as described in Part I. if this investigation. It is nevertheless considered that the use of this method as a

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