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LITERATURE ABSTRACTS

MEDICAL

ENGINEERING

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TOXICOLOGICAL

LEGAL . . . decisions and trends

DECENNIAL INDEX - 1945-54

INDUSTRIAL HYGIENE FOUNDATION

MELLON INSTITUTE

4400 FIFTH AVENUE -- PITTSBURGH 13, PA.

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- 72 Asthma and Silicosis. Queries and Minor Notes, J. Am. Med. Assn. 153, 1327 (Dec. 5, 1953).

Asthma occurring for the first time in a 52-year-old person can be aggravated by silicosis. The type of dyspnea caused primarily by silicosis is due to damage of the lung parenchyma and to emphysema. In some persons with silicosis, bronchospasm is induced secondarily. It should also be remembered that a 52-year-old man may have allergic infections or cardiac asthma for the first time. If the patient in question has true asthmatic episodes (relieved by epinephrine or aminophylline), a search for other causative factors should be made by a series of observations such as examination of the sputum for eosinophils and neutrophils, skin tests, and examination for hypertensive, coronary, or syphilitic heart disease.

- 73 Asbestosis Bodies and Pseudo-Asbestosis Bodies. J. Ruttner. Schweiz. Z. Allgem. Pathol. u. Bakteriolog. 15, 628-631 (1952). German.

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-- Bull. Hyg.

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1. Occupational Skin Disease. Public Health Service Publ. No. 306. U. S. Dept. of Health, Education, and Welfare, and Controlling Chemical Hazards, Series No. 10. U. S. Dept. Labor, Bureau of Labor Standards. 15 pp. (1953). For sale by Supt. of Documents, U. S. Govt. Printing Office, Washington 25, D. C. 10 cents.

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PHYSICAL ASPECTS OF THE ENVIRONMENT

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Some of the instrumentation problems faced by an engineer who must evaluate industrial noise environments are discussed. An array of equipment which includes a sound level meter, octave band analyzer, tape recorder, dynamic microphone, audio oscillator, vacuum tube voltmeter, high-fidelity crystal headphones, cathode ray oscilloscope, and a good quality loudspeaker is described. The use of the tape recorder and oscilloscope for measuring impact noises is given particular attention. Various calibration checks are described.

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It is considered that the mechanism which is concerned with the production of human asbestosis is not the same as that which is responsible for the production of asbestotic changes in experimental animals exposed to high concentrations of asbestos dust. The appearance of such changes seems to be related to the breakdown of asbestosis bodies which may liberate some fibrogenic agent.

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97 Physicochemical Studies on Dusts. 8. Some Sorption Properties of Siliceous Dusts. J. G. Gibb and P. D. Ritchie. *J. Appl. Chem.* 4, 483-487 (Sept. 1954).

Rock crystal, Lochaline sand, and vitreous silica (Vitreosil) dusts all show reduced affinity for a dyestuff cation on removal of the disturbed outer layer from the particle surfaces. This layer of amorphous silica is therefore more reactive than the underlying core in sorption processes, just as in solution processes. In the case of vitreous silica, there is probably a physical difference between the outer amorphous layer and the nominally amorphous core, such as a more open structure. Heat treatment and repeated acid extraction have the same effect in both sorption and solution experiments. Alteration of the surface is probably responsible in both cases. -- Cond. from authors' conclusions

98 The Effect of Quartz Dust and Aluminum Phosphate on Certain Enzymes. B. Helferich and Erika Schmitz. *Beitr. Silikose-Forsch.* No. 24, 1-20 (1953). German.

This paper describes initial results on the inhibition of enzyme reactions by quartz dusts. It was found that potato phosphatase was adsorbed on quartz dust to an extent depending on the specific surface of the quartz, but that in the adsorbed state the enzyme was still nearly 100% active. Aluminum phosphate and aluminum silicate also adsorbed the enzyme. A search for phosphatase in a fresh sample of silicotic lung tissue gave negative results. The work will be continued with other enzymes. -- Cond. from Bull. Hyg.

99 Early Diagnosis of Asbestosis by Enlarged Radiographs. J. Krausler and R. Seyss. *Z. Unfallmed. u. Berufskrankh.* 47, 59-64 (Mar. 15, 1954). German.

After a brief description of asbestosis and the changes in the lung tissue in the early stages, the authors describe a radiographic technique with a fine focus. Of 16 asbestos workers, with 1 to 18 year's exposure, eight showed changes in the lung tissue with the enlargement technique; two of these showed no change by normal technique, and in the other six cases the degree of change shown was minimal. -- Cond. from Bull. Hyg.

100 Pneumoconiosis in a Feldspar Worker. W. Rotter and H. Gartner. *Zentralbl. Arbeitsmed. u. Arbeitsschutz* 4, 35-40 (Mar. 1954). German.

The authors describe a fatal case of lung disease in a feldspar worker, which they regard as modified silicosis. The dust contained 27.1% potassium

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B. Helferich and Erika Schmitz. *Beitr. Silikose-Forsch.* No. 24, 1-20 (1953). German.

This paper describes initial results on the inhibition of enzyme reactions by quartz dusts. It was found that potato phosphatase was adsorbed on quartz dust to an extent depending on the specific surface of the quartz, but that in the adsorbed state the enzyme was still nearly 100% active. Aluminum phosphate and aluminum silicate also adsorbed the enzyme. A search for phosphatase in a fresh sample of silicotic lung tissue gave negative results. The work will be continued with other enzymes. -- Cond. from Bull. Hyg.

- 199 Early Diagnosis of Asbestosis by Enlarged Radiographs. J. Krausler and R. Seyss. *Z. Unfallmed. u. Berufskrankh.* 47, 59-64 (Mar. 15, 1954). German.

After a brief description of asbestosis and the changes in the lung tissue in the early stages, the authors describe a radiographic technique with a fine focus. Of 16 asbestos workers, with 1 to 18 years exposure, eight showed changes in the lung tissue with the enlargement technique; two of these showed no change by normal technique, and in the other six cases the degree of change shown was minimal. -- Cond. from Bull. Hyg.

- 200 Pneumoconiosis in a Feldspar Worker. W. Rotter and H. Gartner. *Zentralbl. Arbeitsmed. u. Arbeitsschutz* 4, 35-40 (Mar. 1954). German.

The authors describe a fatal case of lung disease in a feldspar worker, which they regard as modified silicosis. The dust contained 27.1% potassium

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