INDUSTRIAL HYGIENE FEATURES

Biological data which represents the correlated contributions of more than 4,000 scientists and the counsel of an additional 13,000. Abstract No. 451.

What can be done about the shortage of physicians for industry? Abstract No. 456.

Questions and answers on practical aspects of occupational dermatoses. Abstract No. 465.

Circumstances in which soaps and detergents have been indicted as causing or aggravating dermatitis are much more complex than have been anticipated. Abstract No. 466.

An evaluation of the hazards of ozone and oxides of nitrogen, and factors modifying their toxicity. Abstract Nos. 474 and 475.

Existing tendency to develop lung tumors may have some bearing in pulmonary carcinoma, experiment exposing mice to asbestos dust indicates. Abstract No. 506.

Hitherto unrecognized etiological factor in calcification of the pericardium revealed by clinicoroentgenologic study of workers employed in talc mills and mines. Abstract No. 507.

How can the nuisance problem of noise in air-conditioning systems be eliminated? Abstract Nos. 513-517.

A proposed technique for measuring the noise of a ducted fan eliminates measuring errors caused by the existence of sounding waves. Abstract No. 518.

What are the responsibilities of the medical profession in the use of x-rays and other ionizing radiation? Abstract No. 528.

A study of a multiple Venturi wet collector. Abstract No. 541.

A study of carcinogenicity of atmospheric pollutants. Abstract No. 545.

In order to treat electric-arc steel furnace fume theoretically, accurate particle size distributions for each phase of the melting cycle must be known. Abstract No. 548.

How to go about hiring handicapped people and placing them in productive work. Abstract No. 553.

Safety statistics in their present form are only one indication of what a safety program is doing. Abstract No. 554.

PLAINTIFF'S EXHIBIT

IHF-559

carborundum for sanding in the shoe industry; and slate or chalk for stone-dusting in coal mines. Quartz sands have been prohibited since 1938 in grinding of glass, and exposure has been regulated. The higher cost of artificial abrasives in the glass and ceramic industries is offset by higher working speed. -- Cond. from Bull. Hyg.

503 Respiratory Symptoms and Pulmonary Disability in an Industrial Town. Survey of a Random Sample of the Population. I. T. T. Higgins, P. D. Oldham, A. L. Cochrane, and J. C. Gilson. Brit. Med. J. 2, 904-910 (Oct. 20, 1956).

In 1954 the Pneumoconiosis Research Unit of the Medical Research Council carried out a survey of the male population aged 55-64 of Leigh in Lancashire, in order to compare the prevalence of respiratory symptoms and disability in miners with that found in men who had worked only in other occupations. The random sample consisted of 135 miners and ex-miners and 85 non-miners. Pneumoconiosis was found in 23% of the miners and ex-miners. Chronic bronchitis was found in 10.7% of the non-miners, in 26.7% of the miners without pneumoconiosis, and in 12.9% of the miners with evidence of pneumoconiosis. Some of the conclusions are: (1) miners and ex-miners had significantly more chronic bronchitis, a lower ventilatory capacity, and more respiratory symptoms than men who had never worked in mines; (2) miners without pneumoconiosis were on the average more disabled than those with early simple pneumoconiosis; and (3) the differences between miners and non-miners could not be ascribed to differences in social class or smoking habits, and in the miners there was no obvious relationship between length of exposure to dust and bronchitis. -- Cond. from Bull. Hyg.

504 The Influence of the Shape of Dust Particles on the Rate of Phagocytosis in Vitro. A. Lengerova, V. J. Lenger, M. Esslova, R. Tuscany, and M. Volfova. Brit. J. Ind. Med. 14, 43-46 (Jan. 1957).

The rate of phagocytosis of two shapes of dust particles—"long" and "round"—was studied in an investigation in vitro in cultures of macrophages from the spleen of chicken embryos. The round particles were phagocytosed preferentially. This result is discussed from the standpoint of existing theories of phagocytosis as well as from that of the relation of the rate of phagocytosis and the harmfulness of different kinds of dusts. -- Authors' summary

505 The Prevalence of Tuberculosis at Necropsy in Progressive Massive Fibrosis of Coalworkers. D. Rivers, W. R. L. James, D. G. Davies, and S. Thomson. Brit. J. Ind. Med. 14, 39-42 (Jan. 1957).

One hundred fifty-three cases of coalworkers' pneumoconiosis were examined at necropsy for the presence of tubercle bacilli both by culture and by animal inoculation. The series contained 118 cases of progressive massive fibrosis which were the special object of this study. Tubercle bacilli were isolated from 41 cases (35%) of massive fibrosis, and in 31 (28%) of these naked-eye or histological evidence of tuberculosis was recognized pathologically. The pathological observations, therefore, correlated well with the bacteriological results. There is a marked difference between the prevalence of tuberculous infection found in a post-mortem series and that found in life in cases of progressive massive fibrosis. During life the observed prevalence is only 1.1%. The authors found tubercle bacilli in the bronchi at necropsy in 28%. Thus open tuberculosis is, in most cases, a late complication of massive fibrosis. Whether tuberculous infection occurs early or late cannot be deduced from this study. -- Authors' summary

506 Pulmonary Tumors in Mice Exposed to Asbestos Dust. K. M. Lynch, F. A. McIver, and J. R. Cain. Arch. Ind. Health 15, 207-214 (Mar. 1957).

Mice of a selected strain (AC F_1) were exposed to a dusty atmosphere containing asbestos floats of a type used by others experimentally, at 150 to 500 million particles per cubic foot. The largest single experimental group consisted of 127 animals killed at 19 months after exposure for 17 months. This group was compared with 222 control animals. Primary lung tumors were demonstrated microscopically in 46% of the dusted mice and in

1237 Adsorption of Serum Proteins at the Surface of Silica; Its Possible Importance in the Genesis of Silicosis. B. Pernis and M. Battigelli. Med. lavoro 46, 1-13 (Jan. 1955). Italian with English summary.

A series of recent hypotheses on the pathogenetic mechanism of silicosis is based on the adsorption of proteins by silica. The research described was undertaken to determine which proteins are most likely to be thus adsorbed. Experiments were made in which serum albumins, gamma-globulins, and whole human serum were adsorbed on carbon, quartz, and Aerosil powder. The experiments show that human serum globulins, and particularly gamma-globulins, have a high tendency to be adsorbed on silica. It is held probable that the adsorption on quartz is followed by a denaturation of the adsorbed proteins and that this phenomenon could have an importance in the genesis of silicosis. -- Cond. from English summary (Bull. Hyg.) 12

1238 Rheumatoid Arthritis in Males: An Epidemiological Study of a Welsh Mining Community. W. E. Miall. Ann. Rheumat. Diseases 14, 150-158 (June 1955).

It has been shown (IHF Absts. 180, 181, Feb. 1954) that some coal miners with rheumatoid arthritis and with pneumoconiosis have characteristic chest x-rays. To determine whether the progressive massive fibrosis was a causal factor in arthritis, a survey of rheumatoid arthritis patients was undertaken in a Welsh mining valley, in which progressive massive fibrosis was common among the miners. The survey showed that, though the prevalence of rheumatoid arthritis among all patients with massive fibrosis is about 2.7%, compared with 0.6% among miners without massive fibrosis, the prevalence of the disease in miners does not differ significantly from that among non-miners, and therefore it is unlikely that massive fibrosis predisposes to rheumatoid arthritis. It is concluded, therefore, that neither exposure to dust nor the lung changes of complicated pneumoconiosis play a causal role in rheumatoid arthritis. Heredity seems to play a causal role in rheumatoid arthritis, in Caplan's syndrome, and in Caplan chest x-ray findings without arthritis. -- Cond. from J. Am. Med. Assn. 1.

1239 Pulmonary Disability in Asbestos Workers. K. W. Smith. Arch. Ind. Health 12, 198-203 (Aug. 1955).

Respiratory disease experience among several thousand male and female asbestos workers in the United States and Canada is reported. Of all workers exposed to the fibers, very few develop asbestosis. This disease is insidious in onset and progresses slowly with continued exposure, causing respiratory embarrassment and cardiac failure. Expansion of the lung is difficult, and there is impaired gas transfer through the lung. Diffuse, obstructive emphysema is not common. The typical x-ray pattern