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Thompson *et al.* found that the daily feeding of organic zinc salt solutions (acetate, citrate, and malate) or of zinc oxide suspensions in doses of from 2 to 38 mg. of zinc to albino rats, not only for many weeks previous to mating, but during pregnancy and lactation as well, did not have any significant effect on the health of the parents, on fertility, or on the health and early growth of the offspring. The offspring of zinc fed parents, weaned at 23 days of age and themselves put on daily doses of zinc, grow at a normal rate and to a normal adult size.

THE NORMAL EXCRETION OF ZINC IN THE URINE AND FECES OF MAN. *K. R. Drinker, J. W. Fehnel, and M. Marsh. Jour. Biol. Chem., March, 1927, vol. 72, pp. 375–383.*

Drinker *et al.* present figures on the normal amounts of zinc present in the urine and feces of a large group of healthy adults on an ordinary mixed diet, the range and average of figures upon the total zinc content of two four-hour specimens being as follows: urine, range 0.25 to 2 mg., average 0.89 mg.; feces, range 2.67 to 19.9 mg., average 9.8 mg.

In addition to providing data for the establishment of normal standards of zinc excretion in man, the observations reported prove that amazing increases in fecal zinc excretion may occur following the ingestion of high zinc foods—increases which may last for several days. The work indicates also that significant increases in the normal content of zinc in urine do not result from the ingestion on single occasions of high zinc foods but offers no evidence as to whether or not the normal urinary zinc level would be raised if foods unusually rich in zinc were continually ingested.

DUST HAZARDS AND THEIR EFFECTS

PNEUMONOCONIOSIS CAUSED BY ASBESTOS DUST. *London Letter, Jour. Am. Med. Assn., July 23, 1927, vol. 89, p. 304.*

At a conference of the Royal Microscopical Society, held at Liverpool, a case of pneumonokoniosis due to asbestos dust was reported by Dr. W. E. Cooke and Mr. C. F. Hill. It appears to be only the second reported in this country. The particles found in the lungs were large, some measuring as much as 360 microns. They represented the brittle iron containing part of the asbestos fibers. The dust contained 18 per cent. of iron as ferrous oxide, the raw material 2.1 per cent., and the finished article 0.1 per cent. The microscopic appearances of the dust were identical with those of the particles found in the lungs.—K. R. D.

THE EFFECT OF CEMENT DUST UPON THE LUNGS AND THE QUESTION OF TUBERCULOSIS AMONG CEMENT WORKERS. *Fraenkel, Hack, and F. Schott. Abstr. as follows from Zement, 1926, vol. 15, pp. 126–128, 146–148, in Chem. Abstr., Oct. 10, 1927, vol. 21, p. 3260.*

Decades spent in the dust laden atmosphere of a cement plant did not lead to any dangerous disease of the lungs in 100 cases observed. The

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—P. D.

RADIOGRAPHIC PICTURE
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GNOSIS FROM OTHER AFFECT
THE LUNGS. *P. F. Møller.*
l., July, 1927, vol. 8, pp. 193–
The summary following this
follows:

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INDUSTRIAL PHYSIOL
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CHANGES IN WHITE BLOOD
USCLES DURING WORK. *A. F.*
g and M. V. Lepskaia. Abs
ollows from Jour. de physiol. et
n., Dec., 1926, vol. 24, p. 715, in
m. Med. Assn., June 25, 192
8, p. 2054.

Goldberg and Lepskaia exa
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alveolar walls. A. Policard (Lyons) has combined two views in his hypothesis, that they come from the lining of the alveoli, and that this is mesodermal rather than epithelial. Dr. H. M. Carleton, of Oxford, has recently[1] reexamined the question in a variety of ways—histology, vital staining, tissue culture—and comes to the conclusion that dust cells are indeed derived from the cells lining the alveoli, and that these are epithelial in nature; in other words, he reaffirms the original interpretation. Phagocytosis by epithelial cells is not really so very uncommon, even in mammals; many cancers show an exaggerated degree of it. These epithelial dust cells are, perhaps, chiefly peculiar in their capacity for ameboid movement, for after picking up particles in the alveoli they will penetrate the lymphatics of the lung, and travel long distances in these vessels and to the bronchial glands.

✓ Pulmonary Asbestosis. *W. E. Cooke. Brit. Med. Jour., Dec. 3, 1927, vol. 2, pp. 1024–1025.*

The clinical history is given of a woman who was exposed in a factory to asbestos dust for eighteen years, before she ceased work in 1922. She then came under notice presenting signs of fibrosis of the right lung and tuberculosis; she died two years later. The lungs showed an enormous amount of fine granular pigment in peribronchial fibrous tissue, in the walls of alveoli and in phagocytes. Numerous particles of dust similar in size and shape to asbestos dust were to be seen; and in addition certain large solid angular particles, quite unusual, arising apparently from the dust.

Some short description is given of the use of asbestos during historic time; it has been known since the days of Herodotus. In composition it is a mineral mainly composed of hydrated magnesium silica. A chemical analysis yields about 43 per cent. magnesia, 40 per cent. silica, and 14 per cent. water. A certain amount of oxide of iron is also usually present; the iron appears as dark particles among the translucent asbestos fibers. The fibers may be of great length and fineness so that cloth made with them can weigh less than 8 ounces to the square yard.—E. L. C.

✓ Histology of Pulmonary Asbestosis. *S. McDonald. Brit. Med. Jour., Dec. 3, 1927, vol. 2, pp. 1025–1026.*

This article is devoted to the histologic appearances seen in the case reported by Dr. W. E. Cooke. (See previous abstract.) Well-marked diffuse interstitial pneumonia was present with chronic bronchitis and some emphysema. There was also extensive pigmentation with signs of chronic phthisis. The typical whorled formations seen in silicotic lungs were not present. A distinctive characteristic was the presence of certain large fragments varying in size from 20 microns to 70 microns or even larger. These curious bodies look like organic structures with club-like extremities. They were submitted to pathologists, zoologists, botanists, and chemists; but no one could identify them. The hypothesis is advanced that these bodies are portions of asbestos fibers in the process of alteration and absorption by hydrolysis either by direct chemical action or by enzymes; but the exact nature of these foreign bodies remains in doubt. (Special plates are given of photomicrographs illustrating the papers by Dr. Cooke and Dr. McDonald.)—E. L. C.

Clinical Aspects of Pulmonary Asbestosis. *T. Oliver. Brit. Med. Jour., Dec. 3, 1927, vol. 2, pp. 1026–1027.*

This article is a short note dealing with the same case as is reported by Dr. Cooke and Dr. McDonald; it follows the same lines as the article which appeared in This Journal (1927, vol. 9, p. 483).—E. L. C.

Effects of Coal Dust upon the Silicotic Lung. *S. L. Cummins. Jour. Path. and Bacteriol., Oct., 1927, vol. 30, pp. 615–619.*

The occurrence of silicosis among those coal miners in South Wales who are employed driving roads in hard silica rock was reported in This Journal (1926, vol. 8, p. 466) by Tattersall. An account is given in this paper by Prof. S. L. Cummins of the pathologic findings in the case of one of these miners who after being exposed to silica dust for four years at machine drills was subsequently employed as a coal miner at the face. Neither during life nor after death were tubercle bacilli found. On chemical analysis the lungs were found to contain a little over 10 per cent. of ash of which 1.4 per cent. was composed of silica. Ash from the lungs of an

[1] Carleton, H. M.: Quart. Jour. Micros. Sci., 1927, vol. 61, p. 223.

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A NEW KONIMETER. *R. A. H. Flugge de Smidt. Jour. Chem., Metall. and Min. Soc. So. Africa, Oct., 1927, vol. 28, pp. 78–80.*

A brief description, with illustration, is given of a circular konimeter with microscope attached, designed by the Carl Zeiss Co., Jena.—P. D.

HYGIENE

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J. I. H.
Dec., 1928

SUBJECT INDEX TO VOLUME X

This is a subject index to all the reading matter in the ABSTRACT OF THE LITERATURE OF INDUSTRIAL HYGIENE, and one should, therefore, look for the subject word. The name of the author follows the subject entry in parenthesis.

For author index, see page 265.