462 Benzo(a)pyrene and Other Aromatic Hydrocarbons Extractable from Bituminous Coal. R. Tye, A. W. Horton, and I. Rapien. Am. Ind. Hyg. Assn. J. 27, 25-28 (Jan.-Feb. 1966).

Other investigators have shown that carcinogens in combination with particulate matter are effective in producing lung cancer in experimental animals. Since coal dust does not appear to be effective in producing cancer, the presence of carcinogens in an extractable state in coal shows that the biological availability of carcinogens in atmospheric dusts must be an important factor in their hazard to man. There are 17 references. -- Author's summary

463 The Epidemiological Approach in Estimating MAC Values, With Special Reference to Medico-Sociological and Statistical Methodology. R. Cederlöf, L. Friberg, and E. Jonnson. Nord. Hyg. Tidskr. 46 (1) 33-43 (1965).

The decisive factor from the medical point of view in estimating "maximum allowable concentration" (MAC) values is the effect or response which a substance or combination of substances elicits from the normal individual. This effect, in turn, depends upon the circumstances of the stimulus situation, —i.e., the exposure conditions—and the receptivity and tendency to react of the individuals subjected to the stimuli. A number of factors are involved in the planning, execution, and evaluation of epidemiological research. This paper is, however, restricted to some medico-sociological and statistical aspects. In epidemiologic investigations aimed at estimating symptom frequencies among exposed and nonexposed individuals, the registration procedure—i.e., the questioning of the individuals themselves—might be subject to serious errors. To avoid these and to make those who study the reports on such investigations able to form a well-founded opinion as to the reliability of the results a series of seven points are outlined. The question of what statistical methodology should be used is also discussed including some of the difficulties encountered in random sampling and the seriousness of sampling errors. -- APCA Absts.

464 Histological and Chemical Studies in Man on Effects of Fluoride. R. A. Call, et al. Public Health Repts. 80, 529-538 (June, 1965).

The presence of elevated concentrations of fluorides in the atmosphere has been associated with changes in certain plants and an increase in the fluoride content of forage in certain areas in Utah. Long-term ingestion of such forage by some animals has produced changes characteristic of fluorosis in some of them. It seemed important to determine if man was also being adversely affected. In this investigation, 127 human bodies were autopsied and studied for gross, histological, and chemical evidence of fluoride intoxication. Eighty-eight of these deceased persons came from geographic areas known to have had elevated fluoride levels in the atmosphere and forage. Analyses for fluoride, calcium, phosphorus, and ash were made on the calverium, sternum, rib, iliac crest, and lumbar vertebrae. Determinations for fluoride and dry matter were made on the brain, heart, lungs, thyroid, aorta, liver, spleen, pancreas, and kidney. The highest fluoride levels were observed in older adults showing the end-stage kidney of bilateral pyelonephritis and polycystic disease. Average levels were found in subjects with unilateral pyelonephritis and in subjects with pyelonephritis with only slight to moderate disease. The highest fluoride levels found, in subjects with the most severe kidney disease, were within the normal range, and no disease associated with fluorides was evident. Because the number of cases of chronic renal disease in this series was limited, further studies seem advisable. Data accumulated in this study indicate that the levels of fluorides to which Utah residences in the area studied had been exposed were not responsible for gross or histological changes in soft tissues or bones. -- APCA Absts.

465 Induction of Tumors of Liver, Kidneys and Lungs in Rats with n-Nitrosodimethylamine. I. N. Shvemberger. Federation Proc. 25, Part II (Translation Supplement) T85-T87 (Jan.-Feb. 1966).

Administration of n-nitrosodimethylamine to rats via a gastric catheter over various periods of time to a total of 10-60 mg. per rat caused the development of both benign and malignant tumors of the liver, kidneys and lungs. Tumors could be induced by a total dose of 10-20 mg. of the carcinogen per rat, given a period of one to two weeks. -- Author's conclusions

466 Vitamins in the Treatment of Chronic Benzene Poisoning. Ethel Browning. J. Occ. Med. 7, 554-559 (Nov. 1965).

The evidence for a direct therapeutic effect of any of the vitamins in the treatment of benzene poisoning cannot at present be entirely accepted, but in view of some of the favorable accounts presented here, further research is indicated, especially since at present no other remedies for chronic benzene poisoning, save complete cessation of exposure, are available. There are 45 references. -- Author's conclusion

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