

bones, especially the vertebrae; pericardium; liver; spleen; brain; suprarenal). An atrophy of the testes existed in one worker employed in the radium laboratory (Neitzel). The histological examination of the neoplasms revealed an absence of adenocarcinoma which existed in the Schneeberg series. The following histological types were represented: squamous cell carcinoma with cornifications 1; squamous cell carcinoma without cornifications 1; small cellular or oat-shaped cell carcinoma 6; and polymorphous cell carcinoma 1. In one case of oat-shaped cellular carcinoma cysto-papillary structures were found, which were taken as indicating a probably pleural origin. Multiple primary tumors with different histological structure were observed in one case.

Medico-Legal and Sanitary Aspects. The radium disease of the Joachimsthal miners was recognized by the government of Czechoslovakia as a compensable occupational disease in 1932. It was made obligatory by special decree that the miners be subjected to a medical examination at two year intervals. It was stated at that time that a special law was being prepared which covered the enforcement and introduction of preventive technical measures in the mines and radium laboratories (technical and medical).

The ventilation of the mines was improved in recent years by forcing air into the mine pits. It was reported that in response to this measure the radioactivity of the air was reduced to an average of 2 Mache units. Since the Joachimsthal mines have come recently under the supervision of the German government, it may be hoped that the study of the fatal occupational neoplastic diseases occurring among the men employed in both the Joachimsthal and Schneeberg mines will be coordinated and thus may yield more quickly results as to the best methods for their prevention and diagnosis.

Lung Carcinoma Among Employees of Establishments Manufacturing Radioactive Substances

The evidence supporting an actinic origin of the lung carcinomas of the Schneeberg and Joachimsthal miners is highly suggestive, but not entirely conclusive, since the circumstantial clinico-statistical data in favor of such a conception are complicated by the presence of additional exogenous factors of doubtful causal significance (dust, arsenic, etc.) and the attempts at an experimental reproduction of these diseases have failed. Because of this uncertainty, it is of great importance that carcinomas of the lung of evidently occupational genesis have occurred among workers who are employed in laboratories engaged in the purification and production of radioactive substances, of their compounds and of various preparations and appliances containing radioactive matter to be used for commercial and medicinal purposes, as well as in technicians of therapeutic radium laboratories.

Incidence. During discussion of the Joachimsthal cancer mention was made of the occurrence of two cases of pulmonary malignancy among the workers employed in the laboratories of these mines, where the uranium ores are