

plasia (Baader; Rostoski and Saupe). Similarly negative observations were made of miners working in the nearby Johann Georgenstadt district. For these reasons a constitutional defectiveness of the population of the Erzgebirge does not play any contributory role in the production of the Schneeberg cancers, as claimed by Härting and Hesse; Rostoski, Saupe and Schmorl; and Lange.

Experimental investigations as well as clinical evidence do not support the contention that the flora present in the mines (fungi—*penicillium*, *aspergillus*—and bacteria) possesses specific carcinogenic qualities. Inasmuch as powder fumes, which were considered by Härting and Hesse as of possible causal significance, do not exhibit such an action upon workers exposed to them in different occupational endeavours, this factor does not deserve further consideration (Arnstein; Cohnheim; Rostoski and Saupe). The claim as to a specific carcinogenic property attributed to cobalt could not be confirmed through investigations conducted in 1925 by a special committee of the Labour Office of the League of Nations among the workers employed in cobalt mines in other parts of the world (Canada: Cobalt City; Congo: Katanga; Norway: Skuterud; France: Allemont; Czechoslovakia: Dobschina). In Cobalt City 398 miners employed for 5 to 20 years were examined without finding a single case of pulmonary malignancy. A similar result was obtained at the examination of the miners of Dobschina. The statement made by Kaufmann that the cobalt miners in India show an excessive incidence of lung cancer is evidently the result of incorrect information. The chemical examination of the lung of a miner in Schneeberg dying from lung cancer did not show the presence of cobalt (Beyreuther).

The presence of arsenic in the rock dust and in the mine air (as diethyl arsine produced by the metabolic activity of fungi) has given rise to the contention that this known carcinogenic chemical was involved in the production of the Schneeberg cancer (Risel; Weber; Schmorl). Risel thus asserted that the arsenical dust activated the mediastinal lymph nodes into the development of a lymphosarcoma or, rarely, of an endothelial carcinoma. In support of this claim attention was called to the fact that the Schneeberg miners frequently were affected by a dermatosis of the hands, which was attributed to an arsenical exposure.

A more thorough and comprehensive study of this aspect, however, reveals numerous data which are not in accord with such a conception. Inasmuch as the allegedly arsenical dermatosis may be caused by a variety of other irritative factors present in the mines, any one of which alone may produce such a condition of the hands (exposure to water, mechanical trauma with bacterial infection, radium emanation), this evidence is of very doubtful value, as it permits an interpretation more plausible than that given. The production of arsenical dust and its inhalation by the miners have been reduced greatly by the introduction of better ventilation, by the method of wet drilling and by the wearing of masks by drillers, while the possible