

occupational exposure to a powder of arsenic and alkali, found in four of these workers ulcerations of the upper and lower limbs. These may have been chemical burns or may have represented ulcerated arsenical epitheliomas. There were in England, during the last five decades, a total of seventeen arsenical cancers of the skin, of which four must be regarded as doubtful.

During the same period continental Europe furnished two cases having this same etiology. A somewhat doubtful case was recorded by Ketron from France in 1928. The report stated that a cutaneous malignancy was observed in a machinist employed in a factory making buttons from brass containing 0.0074 per cent of arsenic. The development of the cancer was attributed to the inhalation of the brass dust. Germany contributed one case in 1938, when von Pein noted the occurrence of a malignant transformation of an arsenical keratosis in a vineyard worker, who had used an arsenical spray. A single case of arsenical carcinoma, present in an employee of an arsenic factory attached to a smelter of copper ores, was reported from Japan (Miyaji, 1935).

The occurrence of arsenical cancer of industrial genesis was reported from two American countries, namely, Mexico and the United States. Two cases of this disease were published by Anderson (1932) and Schaerrer (1934), respectively, in Mexicans. In both instances the tumors were seen in workers engaged in silver mining or smelting of silver ores. Anderson noted that, according to a statement made by his patient, similar cutaneous lesions are common among those members of the Mexican mining community who worked in the mines. By far the largest number of cases of arsenical malignancy has been reported during the last decade by investigators from the United States. Franseen and Taylor recorded two cases of cutaneous cancer in farmers, who had used arsenical sprays (1934). In the same year a report of Ayres and Anderson mentioned that there were ten cases of occupational arsenical epithelioma (3 after the use of arsenical sprays and 7 due to an exposure to fumes from smelters) among a total number of 41 cases of arsenical malignancy of known etiology. In spite of the fact that Australia is one of the principal arsenic producing countries, there are thus far no cases of industrial arsenical cancer placed on record from that continent. Altogether 34 cases of this disease were found in the literature, which is indeed an astonishingly small number, considering the conditions of exposure prevailing in certain occupations and the number of individuals exposed.

The impression prevailed even up to very recent times among some public health officials of this country that chronic arsenico-dermia of industrial origin did not exist in the United States. Schwartz stated in 1936 that he had not seen a single case of occupational arsenical keratosis or epithelioma among the arsenic workers he had examined. To explain this extraordinary immunity of American workers to arsenical malignancy, Schwartz advanced the opinion that either the American industries were newer than those of Europe and hence had more safety precautions installed in handling arsenic, or the methods