

lying this localized occurrence, however, are not clear, as similar occupational conditions seem to exist in the corresponding industries of several other countries.

The marked variations in the distribution, type and size of industrial establishments in different countries represent an additional important cause for the varying geographic incidence of occupational tumors. Highly developed industrial countries, such as England, Germany, Switzerland, Italy and the United States, possess a comparatively large number and more different types of industrial neoplasms than countries which are more agricultural (Denmark, Holland, Hungary, and Sweden, for example). The unusually low incidence of occupational neoplasms recorded in highly industrialized countries, such as Belgium and Japan, constitutes probably an apparent exception from this rule. As the industrial development in Japan is of relatively recent date, industrial cancers have been observed there only since the last ten years (Koinuma, 1931). Nagayo and Kinoshita (1940), on the other hand, attributed the extreme rarity of industrial cancers in Japan, particularly among the workers employed as oilers in the textile industry, or in gas, tar, and tar by-products manufactures, to the fact that Japanese workers are very clean, taking a hot bath daily and change clothes frequently, thereby lowering the intensity of exposure. The cause for the scantiness of occupational neoplastic manifestations among the industrially active population of Belgium is not readily apparent. It may be possible that a certain deficiency in the number of post-mortem examinations as well as in the control of industrial health conditions plays a role in this respect, because medical surveys conducted recently among workers employed in Belgian pitch and tar plants revealed the occurrence of a considerable number of tar and pitch cancers during the last few years (Uytendhof; Firket and Malter). An extraordinarily low rate of industrial tumors is reported also from France and Luxemburg, both countries possessing a very well developed industry.

There are a few additional factors which exert a certain influence upon the regional distribution of occupational cancers. Racial factors, for instance, contribute to the incidence of skin cancer in regions having an intense solar irradiation and being inhabited by members of light pigmented races. Industries located in countries where colored labor is available for operations entailing the contact with tarry and oily substances, on the other hand, are apt to show a low incidence of occupational tar and oil cancer, as the skin of Negroes is less susceptible to such reactions than that of white people. Occupational cancer caused by endemic parasitic infections (bladder cancer on the basis of Bilharziasis) displays also a locally restricted occurrence (Egypt). Similar considerations apply to industries depending upon the occurrence of rare minerals (radio-active substances [Schneeberg, Joachimsthal]).

No encouragement, however, can be given to the reasoning advanced by Hoffman (1928) in an attempt to explain the existence of marked variations