

- rays from radioactive substances upon the cellular components of the skin.
- b) Pulmonary blastomas resulting from the exposure to and inhalation of radioactive material, chromates, asbestos, nickel carbonyl, tarry substances.
 - c) Tumors of the nasal passages and sinuses following upon the exposure to radioactive substances, chromates, nickel carbonyl.
 - d) Cancers of the upper alimentary tract exhibit statistically causal relations to certain industrial cancerigenic agents acting most probably directly upon the mucous membranes of these passages.
- 2) Excretory contact tumors.
- a) Epithelial neoplasms of the skin following the ingestion of arsenicals.
 - b) Blastomas of the urogenous tract resulting from an exposure to certain aromatic amines, excreted in the urine.
 - c) Cancers of the liver, intestinal tract, female genital organs provide, theoretically, a possibility of proliferative manifestations of this type.
- 3) Depository contact tumors.
- a) Cancers of the skin associated with the deposition of arsenicals in the cells of this organ.
 - b) Sarcomas of the bony tissues following the storage of radio-active material in the bones.
- 4) Tumors in tissues possessing a special affinity or sensitivity to a particular cancerigenic agent.
- a) Blastomatoid and blastomatous reactions of the hematopoietic tissues following an exposure to roentgen-rays, radioactive substances, benzol, and chemically related substances.
 - b) Cancers of the urinary bladder and liver caused by an infestation with certain helminthic parasites exhibiting an affinity to these organs.

It is in the nature of any classification of biological manifestations that the dividing lines between the different groups are not always sharp and that a certain amount of overlapping occurs, or that several factors are operative and combine in bringing about a neoplastic response in a particular case. Thus, arsenicals are not only deposited and stored in the skin, but they are also excreted through its various component parts (epidermis, hairs, sweat). A depository and excretory mechanism may, therefore, be active in the development of arsenic cancers of this organ. Malignant neoplasms of the lung, on the other hand, may be elicited not only by a primary contact with radioactive substances inhaled in the form of gases or dust, but may also be caused by the exhalation of gaseous members of this chemical group representing degradation products of solid radioactive substances which may originally have entered the body through the mucous membranes of the digestive or respiratory tract.

The nature of the ensuing neoplasms depends moreover on the type of contact with a particular carcinogenic agent. Radioactive substances may thus produce cancers of the skin following a prolonged localized exposure to the rays emitted by these chemicals, while osteogenic sarcomas may result when these chemicals are deposited in the bony tissue, pulmonary neoplasms when