

in contact with these mucous surfaces in almost every case of phthisis. It would seem therefore that in the great majority of cases something more is required than the presence of the bacilli to produce tuberculosis.

One of the most important factors in the formation of the so-called suitable soil is heredity. Since the discovery of the bacillus, the tendency has been in many quarters to under-estimate or indeed to ignore the influence of heredity. This should not be the case. And while it must be borne in mind that one member of a family may contract the disease from another, as children from a parent, apart altogether from any hereditary influence, still there remains abundance of evidence for the belief that heredity plays an important part in the production of phthisis. It must be admitted, however, that direct inheritance of tuberculosis is very rare. It is the tendency to phthisis which is inherited, not the disease.

The exact manner in which heredity acts has not been fully settled. Some think that the mucous membrane of those who inherit a tendency to the disease is so sensitive to the infection that the germs may, by mere implantation, take root and develop. This would hardly seem to be a full explanation, as the larynx and the intestines become affected in only a certain proportion of consumptives, though both the pre-disposition and the germs are there; and many members of consumptive families escape, though no doubt often inhaling the germs. It is much more likely that in persons with a hereditary tendency to the disease, there is some peculiarity about the respiratory organs, as defect of chest capacity, which causes insufficient air change, and stagnation of air and secretions in the air cells and minute bronchi; or a peculiar vulnerability in the lung tissue, by which catarrhal or unhealthy conditions of the bronchial mucous membrane are readily set up by cold, dust, irritating air, and such like, and that these catarrhal lesions form a suitable nidus for the bacilli to develop in. If this view is correct it is obviously of the utmost importance that the respiratory organs be maintained in a healthy condition. Persons with a consumptive family history should guard against colds, dust, bad air.

It would seem therefore that the three main factors for the production of the disease are:

1. The introduction into the system of the germs.
2. An unhealthy or injured condition of the mucous membrane of the respiratory tract.
3. Diminished vital resistance to the germ on the part of the tissues.

The prophylaxis of phthisis therefore consists in: Preventing the entry of the bacilli; the maintenance of the respiratory organs in a healthy condition; and the raising of the resisting power of the tissues,