BRAMWELL: CAUSATION AND PREVENTION OF PHTHISIS. 525

If, therefore, the dose of the poison should be large, or if the poison should be of a virulent type, and if, also, the vitality of the system, or of the tissues with which the poison comes in contact, be lowered, the risk of infection is greatly increased. Phthisis, however, differs very materially from the other contagious and infectious diseases, in the fact that it is very slightly communicable. The risk which a perfectly healthy person, with good sanitary surroundings, runs of contracting phthisis is very small. A healthy wife does not often contract the disease by waiting upon her phthisical husband, and vice versa. But much depends upon the attendant's health, and the conditions under which attendance is rendered. It must be concluded that, though every case of phthisis is due to the introduction into the system of the tubercle bacillus or its spores, the disease is but slightly infectious in the case of perfectly healthy persons.

It would therefore appear that the susceptibility of the person exposed is the main factor in determining whether infection will take place or not. Tubercle bacilli must be very frequently introduced into the system without phthisis resulting. Doctors and nurses must often inhale the bacilli, and yet they do not often become infected. Thie opinion is based upon the experience of numerous observers; good health and good sanitary conditions render the risk of infection almost nil. Overcrowding and inherited and acquired weakness are the dangers that must be carefully guarded against. In other words, a suitable soil must be present to allow the bacilli, which have been inhaled, to take root and develop, or to be conveyed to the glandular structures in the neighborhood. It is probable that the tubercle bacilli which lodge on an abraded or unhealthy mucous surface, do not necessarily cause disease at this point, but that they may pass on to the lymphatic glands, or through the vessels and lymphatics, to distant parts of the body. It is in this way that cases of apparently primary tuberculosis of the bones, joints, or membranes of the brain can be explained. Whether the germs can penetrate through the healthy mucous membrane is not settled; but, if this does happen, it is probably rare. When the mucous surface is healthy, the seed falls upon barren soil, and does not take root. If the mere lodgment of the bacilli on the mucous surfaces were capable of causing tuberculosis, the disease would be much more frequent in the larynx and intestines than is the case, as these surfaces must often be the first resting places for the germs. If the pressure of the germs on the mucous membranes was sufficient to cause tuberculous infection, tuberculous ulceration of the larynx and intestines should occur in every case of pulmonary tuberculosis, since multitudes of bacilli must daily be brought