

We thus perceive that the danger of taking consumption is manifestly great when healthy persons inhabit the same rooms with consumptive patients; because, unless great precautions are taken to remove or destroy the bacilli, they are likely to inhale them from the moist expectoration; and, as these observations show, the chances of taking consumption are much greater when the tuberculous expectoration is present in the air in a finely divided liquid state.

A second inference is, that great precautions in obtaining free ventilation while working, as well as the removal of the diseased expectoration, are necessary in order to protect chamber-maids and others, who are obliged to sweep the rooms of consumptive patients. A third inference is, that the chances of taking the disease are increased by residing, with a consumptive patient, in small, badly ventilated rooms. A fourth inference is, that residence with a consumptive patient in a damp house increases the risk of taking the disease.

If it were possible for all persons to avoid sedentary pursuits, and, while provided with a sufficiency of nourishing food, to live in roomy, well-drained houses, spending a large portion of their time in the free and open air, it is quite certain that consumption would be a very rare disease, instead of being, as it is now, the greatest factor of mortality in civilized life.

But necessity is a hard taskmaster, and many are compelled to earn their bread in the pursuit of callings which expose them to breathe the air of badly ventilated rooms or workshops, to live in damp houses, and, in addition to this, associated for hours together with companions whose expectoration is constantly giving up the special germ of the disease. A desideratum of great importance therefore is the knowledge of the surest method of destroying the bacillus tuberculosis. As the parasite cannot be destroyed by desiccation, it is necessary that the diseased expectoration should be collected in suitable vessels and subsequently dealt with in the most approved manner.

At a meeting of the Society of State Medicine and Professional Hygiene of Paris, France, held in March of this year, Dr. Grancher, in his own name, as well as that of M. de Gennes, communicated the results of their observations on the disinfection of tuberculous sputa as follows:—

*"Observations, made with the assistance of Messrs.*

*De Gennes and Artaud, have satisfied me that air expired by the tuberculous cannot cause consumption in animals which inhale it. Messrs. Strauss and Dubreuilh have confirmed the truth of this observation. But as the expectoration of consumptive patients is the most active method of propagating phthisis, the disinfection of the spittoons used by these patients, is of the very highest importance."*

Experience has shown that antiseptic solutions of carbolic acid, potassa, sulphate of copper, chloride of lime, corrosive sublimate, even in poisonous doses, have not given any encouraging results. Corrosive sublimate in one per cent. solution, destroyed the bacillus tuberculosis, but at this strength it is not easily dissolved, and it would be dangerous to place it in the hands of nurses.

We tried hot water. The bacilli resisted a temperature of 140° F.; at 176° they were in almost every instance destroyed; at 194° and 212° the bacilli were in every instance destroyed. Water, heated up to 212° (boiling water), is therefore capable of destroying the virus of tuberculous sputa."

In the discussion which took place after the reading of this paper, Dr. Grancher expressed the opinion that there is little danger of tuberculous infection from eating butcher's meat. It has been demonstrated by M. Nocard, that tubercle is very rarely found in the flesh or juices of animals, which have died of phthisis, unless these have been tuberculous glands. Theoretically the danger exists, practically it does not.

It must also be remembered that the bacilli from tuberculous sputa may be communicated through the medium of water, food, clothing, etc. The milk of cows, which are affected with the pearly disease of cattle, is well-known to contain bacilli and may prove a source of infection. From these data we may draw the following conclusions with regard to the prevention of consumption:—

1. The expectoration of consumptive patients should always be received in suitable vessels and mixed every day with boiling water.

2. Healthy persons, especially children, should not sleep with, or occupy the same sleeping rooms, as consumptive persons.

3. Children should not be subjected to indiscriminate kissing which may serve as a means of introducing the bacillus.

4. Teachers affected with consumption should renounce their profession, and consumptive children should not be permitted to attend school.