

have been found, but the most constant and the one which is considered to be the cause, cannot be distinguished from the pus-producing cocci, the streptococcus pyogenes.

Tuberculosis is due to the presence in the affected part of the tubercle bacillus. Like the Klebs-Löffler bacillus in its moist state it is not carried by the air, or by the breath of the patient, but in the expectoration countless millions of the bacilli are thrown off daily. The following is from Osler's Practice: "Nuttall, of Johns Hopkins, made some investigations in which he calculated that in the expectoration from a patient in the hospital, from one and a-half to four and a-third billions of bacilli were thrown off in twenty-four hours. When allowed to dry the sputa soon becomes dust, and is thus widely distributed. Cornet, under the supervision of Koch, made some very instructive observations on this point. He collected dust from the walls of various localities and determined its virulence by inoculation into susceptible animals. Material was gathered from twenty-one hospital wards, three asylums, two prisons, from the surroundings of sixty-two phthical patients in private practice, and from twenty-nine other localities in which tubercular patients were only occasionally found. Of one hundred and eighteen dust samples from hospital wards and the rooms of phthical patients, forty were infective, and produced tuberculosis. Negative results were obtained in some cases. In a room occupied by a tuberculous patient, the dust from the wall was infective for six weeks after her death."

These facts show us that too much stress cannot be laid on the contagiousness of tuberculosis. The sputa must be disinfected twice a day, and, of course, should be collected in a convenient receptacle. After the recovery or death of the patient, as much care should be taken in disinfecting the clothes, furniture and room, as after a case of variola.

In this connection I have much pleasure in referring you to an article by Dr. McPhedran, in the *Canadian Practitioner* of June 1st, 1891.

A few words in reference to epidemic pneumonia. The diplococcus pneumoniæ of Frankel is now considered by many to be the specific agent of the disease. It seems, however, to be found in the mouth of many perfectly healthy people. Hence the same need of disinfection does not exist

after this disease. But people with weak lungs would be very wise to keep away from pneumonia cases.

Small pox has always been considered the type of a contagious disease and yet the specific organism, if there is such, has not so far been isolated. The contagion develops in the system of the patient and is reproduced in the pustules. It exists in the secretions and excretions, and in the exhalations from the lungs and skin. The dried scales, as dust-like powder are given off during convalescence, and distributed everywhere throughout the room. Hence, after this disease special care must be taken to disinfect, not only the room, furniture and clothes, but also the body and the liquid and solid excretions of the patient. This disease is contagious from the very first.

Asiatic cholera is one of the specific infectious diseases. It is caused by the presence in the bowels of the cholera spirillum, a genus of the spiro-bacteria, commonly called the comma bacillus, because its shape and curve are similar to that of a comma. Koch's investigations have proved beyond a doubt that this is the specific organism of the disease. This germ is constantly present in the fæces in the early stages of the disease. It is not present in the vomited matter, unless the intestinal contents have been brought up. The source of infection is, therefore, the discharges from the bowels obtaining access to the drinking water. Those who handle the dejecta and linen of cholera patients cannot be too careful to keep their hands disinfected. The germ is not carried by the air, as fortunately thorough drying kills it. It cannot exist as fomites; it is not carried by post or by merchandise, as three hours' drying kills it. Moisture is essential for its existence, and it can, therefore, only be carried by man. Of course if the germ obtains access to any material or position in which it retains its moisture, it will retain its vitality, and in that way may be carried by the mails or in merchandise. Persons with digestive derangements are more liable. It is very rarely that the germ can pass the healthy acid stomach, but an alkaline reaction favors its development. An overloaded stomach in which the acidity is almost neutralized, would assist the germ in obtaining access to the duodenum, in the alkaline reaction of which it would flourish. The bacillus can multiply externally to the body in