

This was done by infecting the mouth with an easily recognized organism such as bacillus prodigiosus and then exposing agar plates at varying distances from the person who was coughing. He showed in this way that it might travel several metres.

His most important contribution, however, was that he pointed out, that, with the coarser more palpable particles, there was a spray of fine particles which were not visible to the eye but which were so small that they might float for a long time in the air and be carried up and down by the innumerable slight air currents which exist in an ordinary quiet room.

Experimentally it was shown that these minute droplets took about six hours to settle to the ground in a quiet room. These particles were so light that a current of less than a millimetre per second was sufficient to carry them for many centimetres in a vertical direction.

When we apply these observations upon air infection to the practical questions of infection in tuberculosis, diphtheria, pneumonia, whooping cough and possibly the exanthemata we see that we have a factor of extreme importance in the history of contagion. In diphtheria, pneumonia and whooping cough there is no doubt that the pathogenic organisms are present in the saliva.

In tuberculosis they may not necessarily always be there. It depends upon the state of the disease and the number of bacilli in the sputum, but Flügge was able to prove positively that bacilli were thrown from the mouth during coughing, by suspending a glass slide in front of a coughing tuberculous patient and finding them on the slide.

Since reading his paper I have on several occasions examined the saliva of phthisical patients, and out of four or five, I only found one in which I was able to discover a few tubercle bacilli, but still the danger seems very great, and I never hear a suspicious cough in street car, shop or room without wondering whether bacilli are not being thrown into the air.

Flügge himself is so impressed with the danger of tuberculous infection from this point that he thinks it the all important factor in the spread of the disease.