"ring-shaped" colonies after 18-20 hours growth on this medium; the

edges are raised, the centre depressed, even in the most minute colonies. The close relationship between the streptococcus and the pneumococcus is commented on by all, especially where the so-called S. mucosus is concerned; this germ is considered to be more nearly related to the pneumocuccus, of which it is probably a variety, than to the streptocoècus.

Katherine Collins in agglutination experiments found that there was no definite relationship discernible between agglutination and other characteristics in the different strains of pneumococcus, save with regard to the "mucosus," which, she considers in this respect, a true streptococcus; in this respect her conclusions are somewhat at variance with the others.

Norris and Pappenheimer experimented with the organism as found in the lungs at autopsy. Pneumococcus or streptcoccus was found in nearly all their cases, but they consider that they frequently attain that position by gravity, which causes the mouth secretions to trickle down the bronchi, and so lodge in the lung. They put bacillus prodigiosus, a bacillus which forms a striking red-coloured pigment, into the mouth after death, and in half the cases, they recovered it from the lungs at autopsy, the manipulations from the moment of death to the time of autopsy tending to this displacement. For this reason, they say, cultural findings from the lungs after death are unreliable.

Working with agglutination, Buerger found that all strains of pneumococcus were agglutinated by pneumococcus immune serum, but that ordinary serum was entirely without effect on pneumo- or streptococcus, the mucosus form included; yet immune pneumococcus serum agglutinated the pyogenic streptococci and streptococcus mucosus. His considered, from his observations, that colds and pneumonia

had little or no relation to the existence of pncumococcus in the mouth. save in two cases in which colds existed, and the likelihood, he thinks, was great that these occurred as a sequence of the presence of the organism.

The most interesting part of all these experiments to the physician, was that undertaken by F. C. Wood on the conditions under which the organism will live. In moist sputum, at room temperature, pneumococcus lives 11 days; at 0° C., 35 days; at room temperature in strong light, 5 days; dried sputum harbors living germs in the dark 35 days, in diffuse light 30 days, in sunlight 4 hours. In powdered sputum in the dark it lives 1-4 hours, in sunlight less than 1 hour; on cloth a little longer than on non-absorbing surfaces. When sputum is sprayed, the particles remain in suspension 24 hours, but the pneumococcus dies