

substantially as follows. Specific opsonins for the green-producing streptococcus isolated from influenza patients developed during the course of the disease, and a specific decrease of the opsonins occurs in the pneumonia following and persists unless the patient recovers, when it returns to normal or above. These changes are specific for this particular organism, and would indicate that it was of some significance in influenza and the complicating pneumonia. Accompanying the leukopenia of influenza occurs a nonspecific decrease in the phagocytic activity of the leukocytes, and continues unless the patient recovers. It is suggested that the leukopenia and this diminution of the phagocytic activity in influenza may account in some degree for the severity and frequency of secondary infection in this disease, and it is possible that convalescent serum or immune horse serum may be useful in promoting leukocytosis and also in increasing the antibody content of the serum.

INFLUENZA BACILLUS.

Gladys H. Dick and Eleanor Murray, Chicago (*Journal A. M. A.*, Nov. 9, 1918), have studied the Pfeiffer influenza bacillus in the two forms originally described by him as the "true influenza" bacillus and the "pseudo-influenza bacillus," the latter appearing in long thread-like forms, but culturally both identical. The present epidemic has shown both of these forms. In some cases, aerobic plates of sputum have practically pure cultures of a small gram-negative bacillus contaminated only rarely by colonies of staphylococcus. Sputum from other cases has yielded equally pure cultures of the long thread-like organism. In a patient whose sputum, and also blood cultures, showed the long thread-like type, aerobic plate cultures of the pneumonic area in the lung gave a pure culture of an organism which at the end of twenty-four hours' growth appeared in smears as a very small gram-negative bacillus, and after forty-eight hours, as long, wavy or curled, gram-negative threads which would ordinarily be classed as leptothrix. But in every case direct smears of the sputum showed only the small bacillary form, suggesting that the organism was the same in all. To determine whether the action of the medium influenced the morphology, they tested it in blood agar, in acid, neutral, and alkaline mediums with smears made at the end of twenty-four and forty-eight hours. The strains that resembled leptothrix in the original cultures still showed the long thread in the more acid medium, but in the less acid and neutral mediums they grew as small bacilli indistinguishable from the true influenza bacillus. Transitions between the two forms were observed when tested with the acid and neutral mediums separately. The authors conclude that with such variations in the morphology, it seems not justifiable to classify influenza bacilli as true and