

last group that contributes most in support of the stated hypothesis.

Among the most informing figures I have gathered on the subject are the experiences at the Riverdale Hospital for Infectious Diseases, Toronto. The results are these: That if a case of measles during incubation be admitted with scarlet fever, an outbreak of measles results on development among the susceptible patients of the ward. An exactly similar condition results when chickenpox is admitted during incubation with scarlet fever. These findings, however, are to be expected, and are in themselves of little interest. The point of real significance, in my opinion, is a second report from the same source, that if a case of measles be admitted in incubation to the diphtheria ward with that disease, a so-called outbreak does not occur. An exactly similar finding is true with regard to chickenpox in diphtheria wards.

During the first four months of 1919 an epidemic of chickenpox existed in the city and although about 575 cases of diphtheria were treated in the hospital during this period not a single secondary case of chickenpox developed. On the other hand three hundred cases of scarlet fever were admitted during this same period, and among these were 131 non-specific inflammatory complications or 43.3 per cent. (It may be noted that only one was nephritis). Of the specific sequelae chickenpox was in the lead with over 10 per cent. During the same period 465 cases of diphtheria were admitted, among which were 64 non-specific inflammatory complications or 13.

77 per cent. From these figures it is quite plain that there is a distinct difference in the degree to which diphtheria and scarlet fever predispose to sequelae, and also that the predisposition seems to be the same for specific as for non-specific diseases.

What is the difference in the action of these two diseases which cause such diverse change in the body's immunity? Taking first the etiology, diphtheria is caused by a well known bacillus, while scarlet fever is caused by an organism which evidence is in favour of naming a filterable virus. The first leaves little or no immunity while the second leaves an immunity which is life long. The first lives outside the body on the mucous membranes pouring into the body only a toxin which though destructive, needs no lytic action to render it soluble in water. In the second disease the organism is in the blood stream and its foreign substance must be prepared for elimination. Having begun to discuss the predisposition to one disease on account of a recent attack from another, I think I am justified in taking scarlet fever as a disease which shows this markedly according to the mentioned statistics. In the same category as scarlet fever I have reason for placing some six diseases, namely smallpox, measles, influenza, chickenpox, scarlet fever, and to a lesser degree mumps. The first three have complications which affect chiefly the respiratory tract, while the last three are inclined to affect the kidney. They all, in varying degrees and frequency, cause inflammatory complications of the accessory sin-