

tions, followed by characteristic paresis, in cats and rabbits, and uniformly killing guinea-pigs in two to five days when injected subcutaneously, with production of necrosis, surrounded by local inflammations and œdema at the site of inoculation, and usually associated with more or less marked parenchymatous degenerations and areas of cell-necrosis of the viscera. This condition is distinguished from other forms of experimental septicæmia by the fact that bacteria are absent from the blood and viscera.

These toxic effects are most striking, and serve to distinguish this organism absolutely from all other species of bacteria. They depend on the fact that the diphtheria bacilli generate an albuminous poison or toxin which, when absorbed into the system, produces fever, cell necrosis and paralysis, which symptoms and lesions can be also brought about by the injection of sterilized cultures containing the *toxin* alone without any living bacilli. The primary local lesions in diphtheria are probably due both to the toxic action of the poisonous substances evolved and the presence of the bacilli.

The disease diphtheria is therefore complex in nature; the presence of the local exudation of false membrane and the toxic constitutional effects being each a necessary part of all cases of true diphtheria. As the diagnosis is naturally based upon the local inflammatory appearances, and as diphtheria is by far the commonest cause of pseudo-membranous inflammations, the term diphtheritic has come to be applied to all severe inflammations attended with the formation of false membrane and accompanied by necrosis, while the term croupous is applied to milder inflammations where there is no necrosis. It should be borne in mind that the terms diphtheritic and croupous are of anatomical and not of ætiological significance, as the neglect of this distinction has led to a great deal of confusion. Diphtheritic inflammation is most often caused by the disease diphtheria, but is not by any means invariably due to this cause, since every sloughing inflammation of a mucous surface presents diphtheritic characters and must be called, on anatomical grounds, diphtheritic. On the other hand, croupous inflammations have been shown by Paltauf-