

ings. No other cases occurred in his own family or in that of his neighbors.

15. J. O.'s children, four in number, aged 4½, 7, 9 and 11 were all taken ill the latter part of November—the youngest died of laryngeal diphtheria, the others recovered. This man lives about a mile from the 'infected area,' but in the same parish. The first child that contracted the disease in this family was present during the illness of a child (case No. 3) in the infected area. The neighborhood here is very sparsely settled and no other cases occurred near by.

16. J. B. lives several miles from Pain Court in the parish of Big Point; attended the funeral of P. L.'s (case No. 2) child. Shortly after, three of his children aged 2, 5 and 7 were attacked with diphtheria, the youngest died Nov. 2nd of croup, the others recovered.

The three following cases occurred in the village in the centre of the community. I could obtain no evidence of direct or indirect contact with the 'infected area' or other source of contagion. It is however very probable that some member of the families attacked were present at some of the funerals of the infected bodies.

17. J. B.'s child aged 18 months—sickened Oct. 17 and died Oct. 24th of croup.

18. J. L.'s child aged 20 months sickened Nov. 4th and died Nov. 14th of croup.

19. J. B.'s child aged 3 years sickened Dec. 13th and died Dec. 15th of the same.

Commentary.—*Origin of the outbreak.*

There are yet many obscure and moot points to be elucidated before the etiological problem of *diphtheria* is finally solved. Of late years the opinion has been, I believe justly growing, that there is some intimate relation between damp and other insanitary factors, and the virus of this disease, yet only recently an English authority Dr. Meymouth Tidy, in a report upon an epidemic of *diphtheria* stated that "it is a doubtful question whether *diphtheria* ever arises from such a cause as defective drainage." Is there any reason to suppose that this outbreak accords with the theory of a special development of infection. The fact that certain isolated cases have occurred in the district at various times points either to the existence of some unhygienic influence capable under certain conditions of generating the specific contagium of *diphtheria*, or to a quiescent state of the

poison introduced at some past epoch and having its vitality renewed on certain occasions from causes yet unknown. In the first family in which the disease occurred, that of J. B., there are two possible factors in the causation.

1st. The presence of the stagnant creek, with its decomposing vegetable matters, etc.

2nd. The fact that two years previously *diphtheria* ravaged this family, there being no subsequent disinfection of the premises; the poison remaining dormant from then until the present, and now again becoming active. Morrell McKenzie mentions a case in which the poison remained latent for three years and then produced its characteristic effects. The strictest inquiry could not elicit the remotest evidence of any source of contagion.

As regards the second family in which the disease appeared, that of P. L. which occurred a week after the death of J. B.'s child, there were also several factors, each one of which may possibly have been the exciting cause of the disease. No communication of any kind took place between these two families. *Diphtheria* had never before invaded this house or the immediate neighborhood, and the house was a comparatively new one with a good foundation. There was however, as in the first case the presence of the sluggish polluted pool of water, besides here were the large elm trees, already referred to, which were a constant source of dampness, especially during the past summer, as the rainfall has been comparatively heavy. The previous health of the child may have been an element in the development of the attack. Many authorities believe in the progressive nature of *diphtheria* under certain conditions from a simple catarrh of the throat.

"Drs. Wood and Formand considered that the inflammatory process of an acute pharyngitis may be a sufficient stimulus to develop the common micrococcus of the mouth into a state in which it becomes capable of producing all the characteristic phenomena of *diphtheria*." Again, it is just possible that the germs of the disease of the cases which occurred two years ago may have been carried down the creek and lodged in the stagnant pool remaining there inactive until the present, when their potency has been revived.

*Diffusion of the disease.*—Whatever may have been the immediate origin of the outbreak, it is