

obtain his pollen pure, as probably his results were due to the pollen being mixed with the pollen of grasses. In 1877 Dr. G. F. Patton, as the result of some experiments with pollen, came to the conclusion that it could not be the sole cause even in predisposed persons. Blackeley, in 1878, repeated some of his observations and reiterated his belief that pollen was a cause. In 1886, J. Mackenzie cast doubt on the pollen theory. Stricker suggested that pollen was capable of causing exacerbation, but was not effective except during the hay fever period. Heymann and Matzuschita made an examination of the nasal secretion of hay fever patients and their results led them to believe that it was caused by a micro-organism. In 1901, Weil and Thost expressed strong doubt as to pollen being the cause, and the latter suggested that it was due to odors and especially those arising from the æthereal oils in plants. Fink suggested that it was the fine terminals of the fifth nerve in nose and conjunctiva that was affected by the irritant.

Evidently, then, in spite of Blackeley's careful work the etiology of the disease was still in Germany, at all events, an open and much disputed question. Dr. Dunbar's interest in the question of hay fever was increased by the fact that following a severe attack of influenza in 1895 he became himself a sufferer from this most unpleasant affection. At that time he, too, was doubtful of the pollen theory and was inclined to believe that hay fever was caused by bacteria. A series of careful observations, however, led him to believe that Blackeley was right in his arguments. These observations and experiments were carefully made and are very interesting.

For seven years Dr. Dunbar has, while in Hamburg, suffered from typical attacks of hay fever from the end of May or the first of June till towards the middle or end of July of each year. In 1898 he took a long trip during April through France, Spain and Northern Italy. During this trip he had two attacks of hay fever, one in the last of April, in travelling from Turin to Venice and from which he completely recovered in Venice, and a second while travelling from Venice to Verona. After returning home he was free from it until his regular attacks began again in June. In 1901 while making a journey of some eighteen hundred miles during the last week in May and the first weeks in June, he was alone in his compartment and was able to make the experiment of opening and closing the window. He found that when the window was open and the train passing through cornfields he at once felt the initial symptoms of a hay fever attack in the form of beginning irritation in eyes and nose that every hay fever patient knows so well. If, however, the train was passing through forests or over heaths, the symptoms did not occur when the window was open, nor did