

not such as to exclude, under the exceptional weather conditions of the past summer, the possibility of malaria being produced.

In the historical argument the reply may be made of the same character. It is a matter of historical knowledge that malaria may practically disappear from localities, and entrench itself in new centres.

It may also be urged that, granting there is and has been nothing in the locality and in the season to favor the production of malaria locally, it may be malaria, because malaria can be carried from distant localities; such, at least, is the opinion of many physicians of eminence. I know that the late Dr. Frazer, of Welland, who had an extensive experience, often attributed the presence of malarial fever in the high-lying township of Pelham to the carrying of the malaria from a lower locality by easterly winds. Major Smart, U. S. A., attributes the origin of "mountain fever" to malaria thus carried from a distant source. This view has been pushed very far, e.g., M. Guerard, a French authority of repute, supposes that the unusual appearance of fevers in Europe at certain periods, with epidemic prevalence, is due to the transportation of germs by atmospheric currents from the continent of America. I may refer to a curious fact which might be seized upon to lend probability to this view.

Co-incident with the marked outbreak of the fever there appeared in Ottawa a southern moth. This moth arrived in such a condition of freshness that the local entomologists could hardly persuade themselves that it was not of local origin. Mr. W. H. Harrington found the moth (the cotton moth) here in abundance on the 9th of October. The appearance of this cotton moth was discussed at the meeting of the Entomological Society of Ontario, and I am informed that the decision was that the moth was carried by air currents from the cotton-producing States. Now, if wind carried these, might it not also convey the *bacillus malarie*? I am also informed that the storms originating about the Gulf of Mexico, and travelling northward, "tail off," or come to an end not beyond the valley of the Ottawa.

The third and fourth considerations, viz., the alleged or supposed absence of malarial intermittent, and the occurrence of a decided frost before the disease reached its maximum, are noteworthy. The following might be adduced in support of this. "Sternberg Malaria," page 2, "Where ordinary

intermittent fever, which is the most common manifestation of malarial toxemia, does not occur as an endemic disease, then we believe that malaria, properly so called, is not evolved from the soil."

While admitting the force of these contentions, it may be, on the other hand, urged that this normal absence of malaria would, to some extent, render us liable to be attacked with *continued* fever when malaria did get in amongst us. Thus Colin observed "that those who had recently arrived in Rome were attacked with *continued*, remittent or quotidian fever, while the old soldiers were attacked with tertian or quartan fevers."

Our alleged freedom from malaria heretofore, our lack of seasoning would, when the malaria came to us, if it has come, tend towards a continued type, a production of which our fever is, just as it appears from Colin going to the malaria, did in Rome. Who can explain the absence of the intermittent type, which weakens the parallelism? Nor is it to be forgotten that malarial poisoning, accompanied by atmospheric heat, is usually conceded to manifest itself in continuous fever, with cold intermittent. But cold with us has produced continued fever. There remains yet a rejoinder, that it may be malarial in its origin. It is well known that it is possible to "load up," as it were, with malaria, and to remain in this "loaded up" condition for months even. The presence of frost under these circumstances does not prevent the appearance of fever when an exciting cause presents itself. Da Costa, Sternberg, and other authorities, recognize this possibility of malaria remaining latent for a considerable time.

More than this, it may be asked, but how is epidemic influenza spread? Is it not admitted that it can go even against the wind? At the present stage of our ignorance of its mode of movement from place to place, we can find a parallel between our own fever and it. The latter is just as inexplicable as the former.

Having thus brought before you some of the arguments for and against the malaria theory (including the atmospheric) what conclusion can we come to regarding it at one period of the epidemic very generally entertained as *the* factor in the disease; for it does not seem that the evidence in its favor is convincing, malaria properly so called having been up to this point under consideration! What about the malaria generated in cities, and which is an