

## LABORATORY OF THE BOARD OF HEALTH OF THE PROVINCE OF QUÉBEC.

Circular on attenuated test cultures as a safeguard against pseudo-reactions in serum diagnosis of typhoid by the dried blood method.

MONTREAL, 7th January, 1897.

*To the President of the Board of Health of the Province of Quebec.*

Sir,

In my work in serum diagnosis done jointly with Dr. D. D. MacTaggart, we recently met with a series of peculiar partial reactions, in which the dried blood solution from many perfectly healthy persons gave a very decided agglutination. The blood serum from the same persons was found much less liable to give these pseudo-reactions. This made it less easy to exclude other febrile diseases, and as with this test accuracy in the negative diagnosis is of great practical importance, others who may meet with similar pseudo-reactions will be interested in learning how they may be avoided.

These pseudo-reactions were not encountered in our earlier cases when attenuated cultures were used. They began to appear when we employed a short time virulent cultures, and disappeared again on resuming the use of attenuated ones. Active, virulent cultures intensified by daily transplantation and growth at the body temperature were therefore not suitable for the dried blood test. Where only active cultures are employed, we do not think that the dried blood method can be considered to have had a fair trial.

The explanation of this difference appears to be that the serum contains relatively less of the substances causing agglutination than solution of the entire blood. Hence solutions of the entire blood react more intensely to test than solutions of the blood serum alone. This was the reverse of what we had anticipated.

It is found that old laboratory stock cultures kept at room temperature, and transplanted at intervals of about one month, give us the best result. Bouillon test cultures grown from this stock for 12 to 24 hours at body temperature are found to react decisively with solutions of typhoid blood or