26th February 1934.

Dr. Whately Carrington,
Calandstraat 64,
ROTTERDAM.

Dear Dr. Whately Carrington,

If the deflection can be assumed to increase steadily, i.e. in arithmetical progression during the session, so that a word which would have given a deflection k if tested at time 0 will give a deflection k x m.t. when tested at time t, then the only effect on the analysis is that W is inflated by a quantity which is the average value of m squared t squared measuring t from the middle of the session, or $\frac{1}{12}$ m squared T squared where T is the duration of the session. If m is known independently of the data this quantity can be deducted, but if m is not known except from the observation that the deflection is, say, greater for the data than for the earlier words even when the words are arranged in random order, then one must calculate m from the formula as

$$m = \frac{S(xt)}{S(t^2)}$$

and the deduction is $\frac{S^2(xt)}{S(t^2)}$

where $S(t^2) = \frac{1}{12} T^2$ very nearly.

However, the thing may not be so simple as this. It may be, for example, that the deflection at time t is multiplied by a factor changing with time e.g. $h_t = h_0 (1 + mt)$

and this would be much more troublesome. You will, I hope, let me know if I can help at all further.

Yours sincerely,