

I take this opportunity of giving the formula I propose should be used for finding the addition to be made to the reserve to provide for the loss of two months' interest on the premiums, in order to remove any misapprehension my former letter may have created. Assuming the claims are paid on proof of death and title, and that the adjustment for this is an addition of (say) four months' interest to the reserve calculated in the usual way, the formula I propose is

$$\frac{i}{6} \sum P \left(1 + \frac{i}{3}\right) (k + a),$$

where k is the fraction used in the valuation. The formula can easily be adjusted to suit any other circumstances. Applying it to the case I supposed, the addition to the reserve would be about £15,000. It will be seen, therefore, that it is not so large as the addition for payment of claims upon proof of death and title, but I think it is sufficiently large to justify special provision being made for it.

I am, Sir,

Your obedient servant,

Edinburgh,

21 October 1893.

JAMES CHATHAM.

CONSUMPTIVE FAMILY HISTORY.

To the Editor of the Journal of the Institute of Actuaries.

SIR,—A brief reply seems called for from me to Mr. Macaulay's letter in the last number of the *Journal*. He rightly describes the principle upon which the Mutual cases having a consumptive family history were selected, quoting Mr. Manly's words as follows: "supposing that case were to come before you to-day, would you consider the cause of death thus recorded to be primarily consumption."

In making the selection, I chose only those cases which all medical men would be agreed to consider as consumption, such as decline, chronic pneumonia in a young subject, &c.; so that the results of the Mutual investigation are quite free from any personal judgment. It was not in any case taken for granted that childbirth recorded as the cause of death indicated consumption, nor is it my opinion that in a large proportion of cases it does so, as Mr. Macaulay appears to think.

Childbirth in family history is rightly, I believe, considered as consumption when no further information is forthcoming as a precautionary measure simply; enquiry will usually clear up these cases, and a certain small proportion of them will turn out to be really consumption.

Yours truly,

THOS. GLOVER LYON, M.D.

London,

23 December 1893.