Using other mortality tables and rates of interest, the figures remain about the same.

It appears from these tables that the gains or losses caused to a life company by a rise or a fall of the market value of its securities are for the greater part imaginary, and have but little influence on the results of the year, provided the liabilities are valued in the manner described.

A valuation on a variable per-cent basis can be practically realised with sufficient accuracy, by making the valuation say, on a 3 and on a 4 per-cent basis, and by calculating the liabilities on the desired per-cent basis by interpolation.

Your obedient servant,

Dr. D. P. MOLL.

Actuary of The Netherlands Fire and Life Insurance Company.

The Hague, July 1908.

INSTITUTE TEXT-BOOK, PART I.

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

SIR,—It has been pointed out to me by Mr. H. B. Smither that by application of the general formula (21) of Chapter V the answer to the question discussed in § 30 of that chapter may be accurately and much more simply expressed in the form

$$\frac{z\mathrm{C}}{1+g}\,a'_{\overline{n}|} + \frac{g(1+\sqrt{1+i})}{2i}\Big(\mathrm{C} - \frac{z\mathrm{C}}{1+g}\,a'_{\overline{n}|}\Big)$$

where a' is calculated at the rate given by $v' = v(1+g)$. This result follows at once from

$$\mathrm{K} = vz\mathrm{C} + v^2 z\mathrm{C}(1+g) + v^3 z\mathrm{C}(1+g)^2 + \ldots + v^n z\mathrm{C}(1+g)^{n-1}$$

Its identity with the present value at rate c of the varying annuity of which the rth payment is

$$(g+z)\mathrm{C} + g\frac{\mathrm{C}}{2}(\sqrt{1+c}-1)(1-zs_{\overline{r-1}|}),$$

where $s_{\overline{r-1}|}$ is calculated at rate g, can of course be established by algebraical transformations.

I shall be much obliged if you can find space for these few lines, as they may save some unnecessary trouble to future students.

I am, Sir,

Your obedient servant,

R. TODHUNTER.

25, Pall Mall, S.W.
  17 *December* 1908.