As I understand Mr. Macaulay's letter, he did not dispute the "fact" that a maximum appeared in the percentages, but he showed (and to me the demonstration is sufficient) that this maximum percentage was probably "due to an entirely different cause" from that put forward in Dr. Sprague's "Maximum Mortality Theory".

The most important point in Dr. Sprague's letter relates to the question of a maximum in the mortality, which Mr. Macaulay is more capable of discussing than I am.

I am, Sir,

Yours faithfully,

HENRY MOIR.

NEW YORK, 30 *October* 1902.

MR. CHATHAM'S PAPER—"DISCOUNTED-BONUS"

MORTALITY.

To the Editor of the Transactions of the Faculty of Actuaries.

SIR,—I observe in the discussion which followed the reading of Mr. Chatham's paper[1] *On Premiums deduced from the New Mortality Experience,* that both Mr. Hewat and Mr. Chatham expressed the opinion that the mortality among policyholders assured under discounted-bonus schemes must be greater than the mortality under with-profit policies.

Some time ago the directors of the *Scottish Amicable* Office caused an investigation to be made into the mortality of their discounted-bonus class as compared with that under their ordinary with-profit class, in order to ascertain if the selection of those desiring a cheap premium scale had been detrimental to the Office. The following is a note of the result :—

Statement of Sums Assured which became claims during the years 1896 *to* 1900, *both inclusive, under With-Profit Policies and under Discounted-Bonus Policies respectively, and of the corresponding claims expected by the* H^M *Table.*

Ages.	With-Profit Policies.			Discounted-Bonus Policies.		
	Actual Claims.	Expected Claims.	Percentage of Actual to Expected.	Actual Claims.	Expected Claims.	Percentage of Actual to Expected.
Under 50	£30,800	£44,446	69·3	£37,450	£64,178	58·4
50 to 70	131,132	132,506	99·0	166,630	193,746	86·0
Over 70	151,768	163,894	92·6	146,780	128,863	113·9
Total,	£313,700	£340,846	92·0	£350,860	£386,887	90·7

The above figures show that not only has the aggregate mortality been less among assurances under the discounted-bonus scheme, but also that at

[1] *See* page 109.

ages under 70 the superiority of the discounted-bonus business is very marked.

In considering the foregoing figures the following points should be kept in view :

(1) The figures in both cases represent the mortality among *sums assured*, excluding bonuses. They are limited also to policies for the whole of life by equal annual premiums.

(2) At the period selected (from 1896 to 1900), the office had been in existence for about seventy years ; and the discounted-bonus class was adopted nearly fifty years ago : hence the experience covers policies of all durations.

(3) As the rules which guided the selection *by the office* have been the same for both classes of assurance, any difference in the rate of mortality, if proceeding from selection, must arise from selection *by the assured*.

I am, Sir,

Your obedient servant,

N. B. GUNN.

35 St. Vincent Place,
    Glasgow, 11 *July* 1902.