

## ACTUARIAL COLUMN.

Endowment assurance is of comparatively recent development, but its growth has been truly phenomenal. Some idea of its increased popularity may be gathered from the annual reports of the Insurance Department of New York. In these the total business in force has been classified under the head of whole life, endowment and all other assurances. And here we may parenthetically remark, that if similar returns were furnished to our Dominion Department the information would be both interesting and valuable for statistical and other purposes, and serve to indicate the trend of the business in Canada. Out of the total of \$1,439,916.165 of assurances in force in the companies which reported to the Superintendent in 1879, only \$202,767.920 or 14.08 belonged to the endowment class, while in 1893 it had increased to \$1,005,360,522 or 22.28 per cent. of the aggregate. It will be seen from this that during the short space of fifteen years endowment assurances had increased 395.8 per cent. as against 213.3 per cent. for all other forms. It does not appear from the report how policies with a modified endowment feature such as are now commonly solicited by many companies have been treated in this division: but if they have not been classed as endowments, as obviously they should, the above figures of course would not adequately represent the great strides which have been made in endowment assurance business. In view of the persistent, and in some cases disingenuous attacks which for some years have been made upon the investment feature of assurance by interested persons, the above statistics conclusively show what a hold it has taken upon the minds of assurers. The public as a rule do not seek assurance, but have to be persuaded into availing themselves of its protection, and it might naturally be supposed that the attraction of cheapness offered by other plans would far outweigh the additional benefits of endowment policies because of the extra cost involved. We are not surprised, however, to find that such does not appear to be the case, for we are of opinion that the combination of investment with assurance is not only a legitimate but also a desirable function for provident institutions such as life offices really are. Objectors to endowment assurances argue that the assured can do better with the additional premium required to purchase the benefit accruing from survival; but even assuming that they could, the fact remains that the extra amount paid might not otherwise be saved. Moreover, other forms of saving or investment do not afford the same amount of security and are not regarded with the same sense of obligation as in the case of assurance, and their object is therefore more liable to be defeated. For this reason we are warm advocates of endowment assurances, recognizing them to be effectual and certain forms of providence as well as assurance. Of late years a large number of new plans of this class have been placed before the public. Some of these are designed to meet the wishes of certain assurers, but many of them are calculated to attract attention by reason of their novelty rather than their usefulness. An entirely new and original form which does not

appear to have been adopted on this continent is that of an assurance payable at death, if it should occur within a certain period, with a return of all the premiums paid in case of survival. The rates are fairly moderate, as will be seen from the following specimens for 20 year period computed by the Hm. table at 4½ per cent. interest with a loading at the rate of 20 per cent. of the gross premiums:—

| Age. | Net premium.<br>\$ | Loading.<br>\$ | Gross premium.<br>\$ |
|------|--------------------|----------------|----------------------|
| 20   | 23.08              | 5.77           | 28.85                |
| 25   | 25.06              | 6.27           | 31.33                |
| 30   | 28.12              | 7.03           | 35.15                |
| 35   | 31.73              | 7.93           | 39.66                |
| 40   | 36.18              | 9.05           | 45.23                |
| 45   | 42.10              | 10.53          | 52.63                |
| 50   | 49.09              | 12.27          | 61.36                |

The formula for the gross premium, representing / as the proportion of loading proposed to be charged, is:

$$\frac{M_x - M_{x+n}}{(1-l)(N_{x-1} - N_{x+n-1}) - n.D_{x+n}}$$

## INSURANCE IN CANADA IN 1893.

Elsewhere in this issue we present our usual summaries of the life and fire insurance business in Canada in 1893, as compared with that of 1892, taken from the preliminary report of the Insurance Department. Extended notice will be given to the various items in future numbers, and for the present we merely note the movement of the business in the main heads. Turning to the life companies' statements, it will be seen that the year was one of the most successful they have ever experienced, which is all the more gratifying in view of the depressed times through which the country has passed. New assurances were issued for \$48,213,871, an increase of \$792,761 over the preceding year. Of this amount Canadian companies secured \$31,100,461, an increase of \$2,713,830 as the result of their total operations at home and abroad. Their British and American contemporaries did not fare so well in this respect as in 1892, for which doubtless there are good reasons. The former's new business amounted to \$2,967,855, or \$657,358 less than in the previous year, and the latter's was \$14,145,555, a decrease of \$1,263,711. But for the substantial advance made by the Canadian companies, therefore, a large falling-off would have been shown in the aggregate returns. The business in force amounted to \$504,917,667, of which \$176,742,002 was in Canadian companies, \$33,572,699 in British, and \$94,602,966 in American. A net gain of \$18,938,940 was therefore made during the year, towards which Canadian companies contributed \$15,164,463 and American \$3,894,484, whilst British companies were responsible for a decrease of \$120,007. The total premiums received by all amounted to \$9,920,716, or \$573,584 more than in 1892. Of the total, \$5,476,058 was received by Canadian companies, an increase of \$169,340: \$1,041,128 by British, a decrease of \$47,388; and \$3,403,230 by American, an increase of \$151,632. Claims amounted to \$1,49,940 less than in the previous year, notwithstanding the increased sums at risk, showing that the companies had a very favorable mortality experience during the past year. Terminations from lapses totalled \$23,378,345, as