

dealing with *selected* lives, the chances that a man at age 35 will die within ten years are 9.5 in every hundred, and that the number mathematically sure to die at that age is 9.2 in every thousand, the probabilities of course increasing with every year of added age. The life policy steps in to *assure* against this uncertain tenure of life, so far as the individual is concerned, by providing for the family when the provident life has ceased. All the savings bank can do is to take care of the depositor's money, *if he saves it*, and pay it back with interest when he calls for it; it provides for no contingency, and furnishes no protection beyond the amount actually put in and accumulated. In order to show clearly the immeasurable advantage of life assurance as a protection, we have prepared the following tabular statement of a policy for \$4,865, issued at age 35 on the continued life plan, without profits, annual premium \$100, and as compared with the same amount annually deposited in a savings bank and compounded at 4 per cent. interest:—

One dying at age of—	HIS HEIRS WOULD RECEIVE		Chances in 100 of dying within 15 years.
	From Savings Bank.	From Insurance Co.	
35	\$ 100.00	\$4,866.24	14.69
36	104.00	4,866.24	15.10
37	212.20	4,866.24	15.57
38	324.70	4,866.24	16.10
39	441.60	4,866.24	16.68
40	563.30	4,866.24	17.34
41	689.80	4,866.24	18.07
42	821.40	4,866.24	18.89
43	958.30	4,866.24	19.80
44	1,100.60	4,866.24	20.80
45	1,248.60	4,866.24	21.92
46	1,402.60	4,866.24	22.14
47	1,562.70	4,866.24	24.49
48	1,729.20	4,866.24	25.96
49	1,902.40	4,866.24	27.58
50	2,082.50	4,866.24	29.32
55	3,096.90	4,866.24	40.26
60	4,331.20	4,866.24	54.70
62	4,866.80	4,866.24	57.60

It will be observed that while the heirs of the man who is assured would receive \$4,866.24 in case of death, at any time from the day his policy takes effect, the savings bank investment requires about 27 years before the proceeds will equal the assurance, provided he pays in his \$100 during every year, together with accrued interest at the rate named, 4 per cent., though, as a matter of fact, many savings banks pay only 3½ per cent. The chances of dying, it will be observed, are more than fifty in a hundred before age 60 is reached, and even if both men live up to the full limit of their expectancy, or about 31 years, reaching age 66, the assured will have received only \$1,304 less than the savings bank yields. In other words, this amount distributed over the 31 years represents \$42.09 annually on his entire policy, or \$8.65 per \$1,000 assured, as the total annual cost of his protection, payable as promptly in the first as in the thirty-first year in case of death. In like manner, it can be shown that as a protection combined with investment, under a 20-year endowment, the \$100 annually would purchase a policy for \$2,485, without profits payable at death at any time until the 20th year, when it becomes realized cash in hand; while it would take over 17 years, *if the man lived and kept up his \$100 deposits annually* before the accumulation would equal the \$2,485. It is obvious that the savings bank depositor

must fulfil three conditions, each involving great uncertainty, viz.:—he must continue to live for 17 years, though the chances before he reaches that age become nearly 40 in a 100 against him; he must continue to earn the surplus \$100; and he must continue to deposit it, together with interest, without fail every year. On the other hand, if the assured man dies the first or the tenth, or any other year, his adverse chance of life thus realized is turned into a certainty of beneficent provision for his family, and, living, if he should become unable to earn and to pay his \$100 premium, he has acquired a proprietary value in his policy, which, applied to its extension or to a paid-up proportion, still gives him protection. The comparison of life assurance with savings bank investment is a manifest absurdity, for the latter depends on the realization of elusive uncertainties, while the former is based upon guaranteed certainties.

#### THE EXPENSE CHARGE IN LIFE ASSURANCE.

From a reader of the CHRONICLE in Manitoba we have received the following inquiry:—

*Editor INSURANCE & FINANCE CHRONICLE:*

Can you inform me if it is true that the various life assurance companies, in making up their premium tables, provide for larger expense charge at the advanced than at the earlier ages, and if so, why? An explanation will greatly oblige

ALEXIS.

In constructing a table of what we call level premiums, three things have necessarily to be taken into the account, viz.: mortality, expense of management, and the creation of a cumulative fund, called the reserve, which is to meet an increased future mortality for which the premium, as fixed at age of entrance, is inadequate. For example, a table of premiums based on the Actuaries' Mortality Table and 4 per cent. interest will show the three elements of the ordinary life premium at age 35 to be as follows:—Reserve element, \$11.04; mortality element, \$8.83; expense element, \$6.62; total premium, \$26.49. The reserve and mortality portions of the premium, combined, constitute what is known as the "net premium," and is the same for a given age in all companies using the same mortality table and rate of interest. The expense portion of the premium, having to do simply with the probable current expense account, may vary with the different ideas of companies as to the adequate charge to be made, hence the slight variations noticeable in the total premiums of different companies. At age 40 the premium, by the above table, will be made up as follows: Reserve element, \$13.86; mortality element, \$9.82; expense element, \$7.89; total premium, \$31.57. A comparison shows that at the latter age, not only are the reserve and mortality portions larger than at age 35, but that the expense portion is also increased by \$1.27. At age 50 the expense portion is \$11.92, instead of \$7.89 at age 40, and \$6.62 at age 35. These comparative statements fully answer the first query of "Alexis," for the universal practice of all level premium companies, whatever mortality table and rate