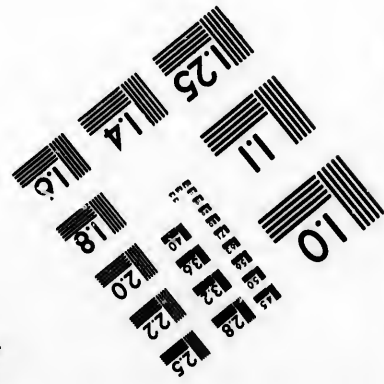
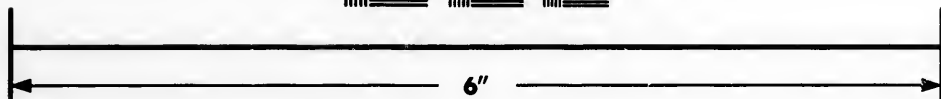
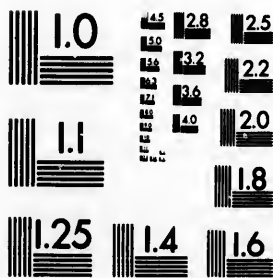


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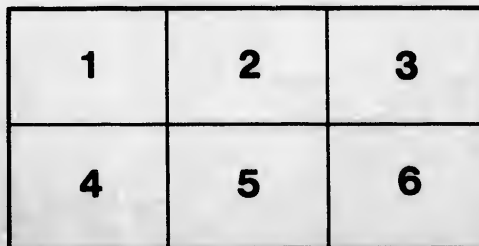
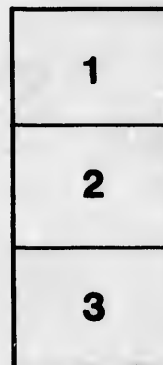
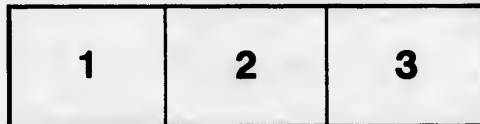
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FALSE INSURANCE METHODS.

By JOHN FERGUSON, M. A., M. D., Ph. D.

ANY have been the hands that have written upon Life Insurance. It is to be profoundly regretted that upon this subject, as upon all others, many have uttered views the nature of which they did not comprehend. Many volumes would not contain the literature that has been given to the public of a most misleading character, or expressing views wholly at variance with the fundamental principles that govern Life Insurance. Many societies have been organized upon plans so erroneous, that one can hardly help thinking the promoters were wilfully deceiving the public.

Frequently there have been placed before the public schemes of insurance by which the members were to receive \$1,000 in five, six or seven years, for the small payments amounting to two or three hundred dollars. In one case, about \$300 paid in by the members in annual portions, was to yield the member \$1,000 in seven years. Now, it is really amazing that any body of men would have the hardihood to place such a scheme before the people; and it is equally surprising that persons could be found who would join such a society. Nevertheless it had its day of prosperity. The United States have been overrun by such societies. No doubt money has been made through these societies; but it went into the pockets of the dishonest and unscrupulous founders and organizers of them. The laws in the States and Canada are becoming more and more stringent, and it is to be hoped that we have heard the end of these frauds. By no conceivable means, either of gains from interest, and confiscation from lapses, could these small contributions be swelled into a thousand dollars in the course of six or seven years.

But, if it is impossible, as bitter experience has taught many, to fulfil the glowing promises made by the promoters of these short term endowments, on the rates charged the members, so will it be equally impossible to meet maturing endowments at the expectancy of life where the rates collected are inadequate for the purpose. When the rates are insufficient, the only difference between a short term endowment and a long term endowment, is one of time. In the former, the race is a quicker one, and the stop is reached sooner than in the long range endowments. The fundamental error exists of insufficient rates, and insufficient income. No management, however good, can save a society,

where the attempt is made of selling its insurance and endowment policies below cost. It would matter not how great the capital of a bank, if the directors decided to give interest on deposits and charge none on advances; ruin must overtake the corporation. The capital would be all used up in the foolish effort; and the ultimate depositors would lose, not only their interest, but their principal; for, after all other moneys had been used, deposits would be used to pay interest upon deposits until nothing was left, if the bank continued in existence for a sufficient length of time.

Life insurance cannot be carried on in any haphazard method any more than can banking. There are certain well known laws that govern the financing of a life office. One of these laws is the law of mortality. As the result of a vast amount of labor over a large field of observation, and carried on by many of the ablest authorities, a number of mortality tables have been constructed. These tables differ a little from each other; yet, for working purposes, they show a close and substantial agreement; and have enabled actuaries to form premium rates, as the cost of giving insurance to persons of different ages. By the tables of mortality it is seen that at different ages the death rates vary, gradually increasing with increasing age. The premium must be so adjusted, for each age, that the contributions of every member shall be sufficient to meet death losses and provide for endowments, if there be any. This law is beyond the control of human agency. It is quite true that the death rate on persons newly admitted into a company or society, ought to be somewhat below the rates fixed in the mortality tables. This is the benefit of careful selection. But when a company becomes old and large, the proportion of new members is not so important in this respect as when it was younger, as they bear a smaller ratio to those already in than was the case in the early years of the company or society. Thus, when the company or society becomes old and large, the benefit from "new blood" is but slight.

Another law that must not be overlooked is that of interest. This is a question of great importance. In a company, with judicious premium rates, and estimating upon 4 per cent., at the outside, $4\frac{1}{2}$ per cent., on all reserves, the affairs may be regarded as satisfactory, unless some unforeseen loss is experienced in the investments. But when the premium rates are inadequate, and the accumulated reserves a long way below what they ought to be, there is a heavy annual loss on interest account. Take for example a society with a reserve of \$1,000,000, whereas the reserve ought to be \$2,000,000; and, computing at 4 per cent., the annual loss would be \$40,000, in addition to the annual loss due to insufficient premiums. It does not need

much thought to see where such a state of things is bound to land the company, or society. Already, the shore is strewn with the wrecks of organizations in whose methods the above error of too low a premium rate had found a place. But some societies make the desperate attempt of carrying on a large insurance business, without reserve of any kind ; and, consequently, without earnings from interest.

Some societies contend that a reserve is not needed. Its head men coolly say that a reserve is just that much money taken out of the members' pockets more than was required to meet maturing losses. If anything could be proof of profound ignorance of the problems of life insurance, surely such contentions afford it. Taking a wide view of the field of societies carrying on fraternal work in Great Britain and the United States, it is found that the death rate ultimately reaches at least 12 per thousand. In many cases it has been much higher. When a society is old enough to contain members from age of 18 years to 99 years, then the full swing of mortality will be experienced. In 1,000,000 members in American societies it has reached 12.42 per 1,000. In the Ancient Order of Foresters, Britain, it has become 12.14 per 1,000. In the Manchester Unity of Oddfellows, the death rate has attained 12.63 per 1,000. In a large mass of membership for other British friendly societies, it has been up to 12.57 per 1,000. Here, then, is abundant proof as to what the death rate must become in friendly societies that have existed for many years. This death rate means that \$12 to \$13 is required annually from each member to meet death losses. When to this the working expenses and lodge dues are added, there is a yearly cost of at least \$16 to \$18. New societies in the meantime have sprung up. The mortality in them is lower, because the members are more recently selected, and, on the average, younger. For a time these new societies are more attractive, because they are cheaper. The young and healthy members desert the old societies for the new ones, as rats leave a sinking ship. It is then, if never before, that the advocates of the no reserve plan of life insurance find out the folly of their method ; and the persistent members, that they have been contributing their hard earnings for the support and comfort of others, while there remains nothing for them but bitter disappointment. This is no imaginary picture. What is here described has happened time after time ; and will continue so long as men are foolish enough to conduct insurance business on the simple but crude plan of making a post mortem assessment to pay the claim of a deceased member. Thus, "the-reserve-in-your-pocket" plan ends in "the-give-away-all-your-contributions" plan.

There is another method of carrying on life insurance that is more plausible, but ends, equally with the above, in

disaster and ruin. There is a fixed annual premium charged. This is divided into twelve, six or four equal portions, that are called in at regular intervals. The premium, however, is too low. While the society is young, and most of its members recently selected, there is a small saving in mortality claims. A surplus is in this way accumulated, and the members think that everything is going on in a lovely manner. All claims have been paid, and there is money in the bank. What more could be desired? But the rates are too low. When the full swing of mortality is reached, no further additions to the surplus can be made. Nay, from the surplus, deductions, to pay claims, have to be made from time to time to avoid the necessity of an assessment. In time, like the jar of meat in the fable, the top is off, then it is half gone, and finally it is all gone. The society is then one advanced in years, with a high death rate, and no surplus. For every claim there must go forth an assessment. Need it be added that the end has then come.

If a company or a society attempts to juggle with figures, the figures, in due time, will juggle with the company or society. Take as an example 82,581 persons aged 35 years, and carry \$1,000 insurance on each through to the age of 99 years, when the last is supposed to die and become a claim. Allow 4 per cent. on all moneys on hand, and it will be found that the premium each must pay so long as he lives, is \$19.87. This, of course, is on the assumption that every one of the persons continues a member until he dies. This premium will not allow any portion for expenses. These must be found in addition to the above rate. But a certain society has undertaken to give insurance, and, in addition, pay the claim when the person reaches his expectancy, which would be 68 years, on a premium of \$9.36. This premium is utterly insufficient for life purposes, and still more so for endowment policies.

We hear a great clatter about lapses, and the vast sums that a society can make in this way. Let us look into this contention. In the first place, a post-mortem assessment society makes nothing by lapses. What the members pay in, by assessment calls, is paid out in death claims. On the other hand, the society loses by lapses. It has been put to the test and proven, by no less an authority than G. D. Eldridge, that the lapses occur mainly among those recently taken into the society, and still healthy. The impaired and older members remain on. In this way, the death rate among the persistent members is actually raised, as shown in table on the next page.

According to this table, it will be seen that the death rate among the persistent members is increased by one-sixth on account of the lapsing of healthy members. Grant that the premium rate was sufficient during the early years

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MORTALITY RATE—YEARS 0 TO 10 OF INSURANCE.

Age of Entry.	RATE PER 1,000.		
	Total Entrants.	Persistent Members.	Lapsed Members.
20	4.227	5.230	4.048
25	4.447	5.466	4.234
30	4.793	5.839	4.528
35	5.345	6.429	4.995
40	6.221	7.365	5.734
45	7.615	8.844	6.906
50	9.834	11.201	8.753
55	13.291	14.928	11.706
60	18.813	20.835	16.370
65	27.565	30.197	23.733
70	41.611	45.035	35.480
74	58.432	62.945	49.586

of a society's history to gather a small surplus by confiscating the savings of lapsed members, it will speedily be swept away by this increased mortality among those that remain. Thus it happens that the very thing upon which such a society calculates as its great source of strength, namely, its lapses, proves, in turn, one of the main causes of its extinction. This statement has been bluffly denied, but it cannot be controverted. To deal with the lapse rate in an unscientific manner is just as dangerous as has been shown to be the case with the improper application of the mortality rates. Both lapse and mortality rates, however, have been used in a rather free and easy, but thoroughly unscientific fashion.

From 22 of the largest mutual assessment societies in the United States reporting to the bureau of the Mutual Life and Accident Underwriters' Association, for the purpose of deciding upon deaths and lapses, we find the following to be the results of actual experience. Altogether 450,154 lives from the ages of 18 to 65 were reported. From this large experience we gather the results given in the table on page 6 for a period of 16 years.

There we have the most conclusive proof that as a society grows old, the mortality on any group of member increases. The next addition of members will follow exactly the same course. If the society ceases taking in members and has not the proper reserve on hand it must speedily collapse. If, on the other hand, it makes extensive additions to its membership each year, the death rate is held down for a time; but a time comes when the society becomes so large that the requisite new membership is more and more difficult to obtain. The members in, and growing old yearly, cannot be counterbalanced by new additions. With a

POLICY YEAR.	DEATHS PER 1,000.	LAPSES PER 1,000.
1	2.286	81.830
2	5.865	205.122
3	7.734	111.709
4	8.768	81.628
5	9.351	67.201
6	10.777	57.083
7	11.145	50.952
8	12.472	48.330
9	13.707	43.601
10	15.502	40.538
11	18.559	40.830
12	17.424	48.742
13	17.730	49.349
14	21.788	45.803
15	21.772	30.610
16	27.595	32.523

membership of 100,000, it is very difficult to keep down the mortality by fresh additions. The necessity for a proper reserve is made clear by the above.

Another example, from the actual experience of assessment companies and societies reporting to the bureau above mentioned, shows that of 12,145 members, at the age of 40, who had been carefully selected, the death rate among the persistent members was as follows per 1,000: in the first policy year, 1.482; second year, 4.758; third year, 6.741; fourth year, 6.413; fifth year, 8.884; sixth year, 11.392; seventh year, 8.306; eighth year, 5.513; ninth year, 11.601; tenth year, 7.692; eleventh year, 17.543; twelfth year, 18.237.

Again, on 16,977 members, entering at age 40, the death rate per 1,000 among the persistent members was as follows, from year one to year sixteen of the policies: 1st, 1.4; 2nd, 6; 3rd, 7; 4th, 7; 5th, 8; 6th, 11; 7th, 7; 8th, 6; 9th, 9; 10th, 10; 11th, 18; 12th, 11; 13th, 12; 14th, 16; 15th, 21; 16th, 26. These figures show the increase in the death rate with the increase in the age of the society in a very positive manner. Unless the lapsing members leave a sufficient sum behind them for the privileges they enjoyed while members, the assessments are bound to become excessively high upon those who remain on the books of the society. Mr. Eldridge says: "Let the first consideration be to protect the persistent member; when this is done and not until this is done, have we a right to consider the claims of the individual who forfeits his contract and withdraws from membership." In nearly all societies the very reverse is the case.

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As another example of the influence of deaths and lapses, the following table has been constructed by Mr. Eldridge from actual experience. It is based upon the movement that takes place in 100,000 persons insured at the age of 30. The table is given in periods of 5 years :

Ages	Numbers	Deaths	Lapses	Decrement.	Residue.
30	100,000	4,526	13,087	17,613	82,387
35	82,387	3,625	8,362	11,987	70,400
40	70,400	3,225	6,337	9,562	60,838
45	60,838	3,322	4,808	8,130	52,708
50	52,708	3,488	3,720	7,208	45,500
55	45,500	3,875	2,883	6,758	38,742
60	38,742	4,973	2,020	6,993	31,749
65	31,749	6,091	1,518	7,609	24,140
70	24,140	6,414	1,111	7,525	16,615
75	16,615	6,446	662	7,108	9,507
80	9,507	5,308	133	5,441	4,066
85	4,066	3,059	1	3,060	1,006
90	1,006	924	0	924	82
95-99	82	82	0	82	0
		55,358	44,642	100,000	

From the above table it is clear that if every member carried \$1,000 insurance, the total amount to begin with, at age 30, would be \$100,000,000. Out of this amount, \$55,358,000 actually becomes claims. From those that make payments into the society must be raised this large sum. If, in the earlier years, a sufficient premium be not charged, then, as a matter of course, a distressingly high one will have to be charged in the later years. Now, what is true of the above 100,000 persons, at age 30, is true of any number at any other age. Thus it becomes clear that the "new blood" will have all it can do to take care of itself, without handing over its strength and accumulations to fan into a feeble life the "old blood" in the society.

L. G. Fouse, one of the ablest of living actuaries, has shown that after a society has taken every benefit from the confiscation of the contributions of lapsed members the lowest premium limit for the age 40 is a premium of \$17.03. This is for ordinary life policies. This premium would not stand the strain of endowments at expectancy. But the society just referred to offers to pay claims when they mature by death and an endowment at expectancy, which, for age 40, is 69 on a premium of \$10.56. When Mr. Fouse made his estimate of \$17.03 he was taking into account the death and lapse rates as determined by the experience of American companies and societies. The

above premium of \$17.03, paid in annually and improved at 4 per cent., is only adequate to pay the death claims that occur among the members that persist in the society after the earnings of the lapsed members have been forfeited for the benefit of those who did not lapse. How then, it may fairly be asked, can any society pay death claims and endowments at 69 on the small premium of \$10.56? The answer is, "It cannot be done."

I estimated some time ago to a large society that the very lowest net premium it should charge for ordinary life policies at age 40 years was \$17.02. This was obtained independently, and closely agrees with the rate just quoted from Mr. Fouse. As has been already stated, we have heard no end of clatter about lapses. When one looks into the statements of the gains to a society from this source, the conclusion is forced home that the promoters of societies either knew nothing about the subject or sought to deceive the public. In conversation with many leading men in fraternal insurance societies, I am of the opinion that they do not understand the effect of lapses and that their knowledge upon the subject is too indefinite to be of any value whatever. But "a little learning is a dangerous thing."

When a society starts out with a premium of \$10.56 for age 40 years, and promises to pay death claims out of this and an endowment at the expectancy of life, it is undertaking to do the impossible. No amount of capital could build a railway to the moon. The capital might be foolishly spent in material for the road, but no road would be built. In like manner when a number of men undertake to carry on an insurance society, and their financial plans are unsound, no other ending can result than the absorption of all the moneys contributed in the effort to carry on the enterprise, until the members become disgusted and leave the organization to its fate. For a few years after the admission of a batch of members there is a saving in mortality. The actuarial estimate is not reached. On the small premium paid, a small saving, or surplus, is obtained. This, however, is consumed a few years later, and that batch of members have to fall back upon the savings of members who have been taken into the society at a later period; or, in other words, they have to depend upon the "new blood." Were it not for this, they would have to put their hands into their pockets for special assessments.

This "new blood," in time, will have to fall back upon still other "new blood." In this way the process goes on until there is so much "old blood" in the society that it is impossible for the organizers to secure enough "new blood" to prevent decay and death. The above premium rate of \$10.56 is only a few cents more than the natural premium rate for the same age—40 years. But every actuary knows that the natural premium rates are only sufficient for one year, and

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required to be advanced each year to the extent indicated in the table of natural premiums. As the result, however, of selection, the death rate for a few years after admission does not come up to the actuarial standard, and, consequently, there is a slight saving in this way. This enables the society to accumulate a small reserve, or surplus, on each new member for a few years; but this surplus is soon consumed again. The member becomes older, and the cost of carrying his insurance increases. A time soon comes when all that the member pays in is paid out. Then the cost of carrying the risk exceeds the premium paid in, and some of the surplus has to be used. But as the surplus, gathered from these small rates, is insufficient, it will not stand the strain. What thus happens of the individual risk happens of a large number; and, therefore, the whole organization must become insolvent.

But the question may be asked, what influence have lapses upon societies? It has already been shown that one of the evil effects of lapses is to increase the death rate among persistent members by one-sixth, as most of the discontinuants are healthy and young. Their place, however, is taken by others freshly selected and examined. In this way the death rate over the entire membership is favorably affected. There is no longer any need for stumbling along in a guessing manner regarding this important feature of fraternal insurance. By watching carefully the movements of the members in large societies, such as the Ancient Order of Foresters, the Manchester Unity Odd-Fellows, and many large American societies and companies, the lapse rate has been determined with great exactness. Indeed, it has been found to be almost as constant as the death rate. Meech and Fouse, in America, and Neison, in Great Britain, have gone into the whole question of lapses in societies very thoroughly. Here is what Mr. Fouse says: "Observers have noticed that there is practically as much regularity in the lapse rate as there is in the death rate. All observations made prove this. The report of the Executive Committee to the Sixteenth Annual Convention embodies the observations with reference to the death and lapse rate according to age and policy years, of 379,780 lives. With the exception of the data furnished by the thirty American offices, embracing over 1,000,000 lives, these are, perhaps, the most extensive data that have ever been used for the construction of tables. The time is long and the number is great enough to establish the law of decrement, both by death and lapse; and furnish us directly, from our own experience, the means of making accurate tests as to our condition, and enable us to determine what is necessary to perpetuate the existence of our several associations."

The above is plain language, and comes from one of the

best living authorities upon the whole field of life insurance. The death and lapse rates being known, it is an easy matter to calculate the rates that ought to be charged for insurance. It is in this way that Mr. Fouse determined the net premium for age 40 to be \$17.03, at a 4 per cent. basis. This is the very lowest sum that can be charged for ordinary life insurance at this age, and allow nothing for expenses, possible losses in investments, lowering of the rate of interest, extra mortality due to unhealthy seasons, how can it be possible to carry on life insurance and endowments at expectancy on a premium of \$10.56? But we are told that assessments can be made, if required. Just so with the premium of \$17.03. It is constructed upon the flexible system, and provides for the possibility that it may not be sufficient; and that an assessment may occasionally have to be made. This is what should be understood as the assessment system. Not to make assessment whenever a claim occurs; or to start out on a premium rate ridiculously too low, and, later on in the history of the association, bolster up the tottering structure by extra calls. No. The true assessment plan is quite different. It consists in fixing the rates at such an amount as will, in all probability, prove sufficient; and still reserve the right to make at times a special extra call to adjust the reserve on hand, if, as the result of a careful valuation, it is found to be insufficient. Here we have the level premium plan, with the safeguard of a call to adjust the financial standing of the order, or society. This is known as the flexible premium plan.

On this plan of insurance, conducted at the lowest rates consistent with safety, there can be no surrender values. Everything that lapsing members leave behind them is confiscated to the benefit of the persisting members. Taking it for granted, as the outcome of much experience, such as that collected by Meech, Fouse and Neison, that there will be a certain lapse rate in addition to the death rate, the rates are struck so as to carry those only who remain in the society, by forfeiting the gains from those who lapse. But to carry out this system of assessment insurance a valuation of the business should be made at short intervals, certainly not further apart than five years. At each of these valuations, if the reserve or surplus in hand is too small, it should at once be adjusted by a special levy or assessment. But how is this to be done?

The answer to this question involves several other principles in the science of life insurance. It has been shown that by applying the principles of life insurance mathematics to a society, so as to calculate on lapses, as well as deaths, a premium can be obtained that furnishes insurance at lowest rates consistent with safety. In the same manner, by applying our knowledge of lapses and deaths, commutation single premiums can be obtained and the annuity value of

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one dollar at any given rate of interest. Having obtained the single premium rates, and the annuity rates, the insurance in force in any society can be put to the test of a valuation. Errors in the amount of surplus on hand can therefore be detected and corrected while still within the range of cure. Having found the commutation single premium, the annual premium, and the annuity value of one-dollar, at a given rate of interest, say 4 per cent. on the decrement method, or on the death and lapse rates combined, the valuation can readily be made. It is now an easy matter to find out the value of the future contributions of the members of the society. It is also easy to determine what the present value of the future claims amount to. The present or future premiums, added to the surplus on hand, must equal, at least, the present value of future claims. If the present value of future claims is greater than the sum of the surplus and the present value of future premiums, then the surplus is not sufficient, and should be raised by making a call upon the members. The real question is not that there is a large surplus on hand; but the other, and entirely different question, is the surplus on hand the proper one to hold? There are societies in existence with large memberships, and a large apparent surplus. This surplus is large enough to give these societies the appearance of stability, and yet wholly insufficient for the purposes to which it is being applied. Assessments will have to be made thick and fast before long, or these societies must go out of existence. There is no middle road.

In the fraternal insurance societies of Canada and the United States, there are hundreds of thousands of members, carrying billions of insurance, and paying in and out millions of dollars, and yet no valuation. Many of these great organizations are drifting along, regardless of all the admonitions of science and experience. Others, again, are making an effort to place their business on a sound basis. In some societies the plan is so radically wrong that nothing can be done with it but discard it altogether for a correct one, if it be not too late now to make the change. In an ordinary death assessment society, no valuation can be made of the business, as there is no fixed premium to serve as a starting-point for such. Money is called when required, and paid out when it comes in. There is no surplus on hand, and no fixed premium to take stock by; but, like a rudderless ship, the society is drifting away, until it strikes the rocks, and becomes disorganized and defunct.

Still another foolish device for the creation of a surplus is being tried in some quarters. It is that of setting aside a certain portion of the post mortem death assessments as a reserve fund. But this plan will not keep down the death-rate; and when this becomes twelve or thirteen per thousand, some of the surplus will be used in paying claims. In

course of time this will be all consumed. These societies will then have a high death rate, and no surplus. Need I draw the conclusion?

The whole question comes to this: No insurance company or society can continue in existence without a Reserve. This statement cannot be controverted. This being the case, the point to determine is, what is the proper Reserve? The answer to this is twofold. First, there is the Legal Reserve of chartered companies. This Reserve is constructed on the assumption that all who become insured will continue on until they die, or live their endowment periods, and are paid their claims. This reserve is higher than is actually required in practice, but affords the advantages of surrender values, paid up insurance, extended insurance, the power to borrow on a policy, and the distribution of profits. In other words, although more is taken from the policy-holder than is absolutely necessary, after working expenses, the extra comes back to him again. And then the policy-holder is in a company that is absolutely stable, under the laws of Canada as they now exist. Secondly, there is the Reserve that is founded on the assumption that many of those who insure will lapse. This has been determined, as has the death rate, and advantage is taken of it in advance. The Reserve in this plan is less than in the first, and, consequently, the policy-holder has a smaller premium to pay. But, for this one advantage, he must offset the following disadvantages: He is liable to an extra call at any time; any surplus to his credit is forfeited to the benefit of others, if he lapses; there are no profits on his policy; there is no surrender value; there is no paid up insurance; and there is no extended insurance. In other words, the Legal Reserve companies charge too much, and give the surplus back; while the Lapse Reserve company or society charges so close to the margin that extra calls may be necessary at any time. As one able writer has put it, "a small surplus is better than a deficit." To give profits begets confidence; to make special calls creates mistrust.

The above are the only two ways in which the business of life insurance can be managed. Either can be made permanent by careful watching and frequent valuation. At these valuations, the Legal Reserve company gives profits; whereas, at the valuation periods, the Lapse or Decrement Reserve company may have to make an extra levy in excess of the regular premium.

Fraternity is a grand thing; but why not have the fraternity conducted on a sound basis? It is just as easy to carry on the work of an association on such a financial plan as will work out equitably to all the members, as it is on one that will not so end. A man joining a society at 20, has an expectancy of 45 years; while one joining at 40,

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has an expectancy of 29 years. These should be charged such premiums as make each pay for what he gets. It is radically wrong that a man of 40 should pay the same as a man of 20. A graded assessment does not meet the difficulty. The very next year the grade is wrong. There are only two ways to make each pay equally, firstly, to adopt the level premium rates, either on the Legal Reserve or the Lapse or Decrement Reserve plan. These rates may be divided into twelve portions, and paid monthly. It is still a level premium, however. Or, secondly, to charge the natural premium rates and change from year to year, as the members advance in age. By this plan a member in his eightieth year would be paying about \$140 a year.

It will not do for members to make light of the fundamental errors that exist in these organizations. Take a member, aged 20 when he joins. Grant that he remains a member for 40 years. Allow that he paid on an average \$10 a year in assessments to carry his \$1000 of insurance, which is a low estimate to make, for, while his first few years may be under this, his latter years will be above this estimate. At the end of this forty years, when he is 60 years of age, the society suspends operations. A high death rate, and frequent assessments, brought it to an end. Now, allow only 4 per cent. on the money he has paid in during these years, at \$10 a year, and it will be found that he has contributed to the defunct concern \$988.27. All this he does for the satisfaction of belonging to a fraternity, and seeing his money going to assist others, whom he never saw, and in whom he has no other interest than that they are members of the same society. But this member is not contributing his money on this understanding. Had he been informed when he joined that after paying in for forty years, and contributing, in principal and interest, \$988.27, the society would become defunct, and leave him, an old man of sixty, out in the cold, he certainly would not have joined. In the meantime he may have become uninsurable; but, even if still in good health, and he seeks new insurance, he finds his premiums are very high on account of his age.

Thus it is that under the guise of fraternity, a vast amount of injustice has been perpetrated, The members often do not know any better, and, taking the statements of the leading spirits in the order, look upon their insurance as perfectly good. Mr. Neison, the distinguished British actuary, condemned such societies in the strongest language. While it must be admitted that the good fraternities have done in many ways is immense, it must be also admitted on the other hand, that very much injustice has been done through their agency, as shown by the example just given, which is only one of many that have happened, and that must still happen under the present method of managing these societies.

Read what Mr. George D. Eldridge, a very able authority on assessment insurance, has recently written: "That the ten years next to come will prove with them (the societies) a crucial period, can hardly be gainsaid; already it is evident that the master minds in several organizations recognize that illy adjusted methods of assessments are cumbering the orders with members who are not paying for the protection they are receiving, but whose presence is making more difficult the maintenance intact of the roll of members under the gradually increasing assessment rate, burdening alike the new entrant and the member of many years standing. Fraternity and brotherhood are proving themselves unable to stay the action of the law of mortality, although they are proving themselves powerful forces to withstand the tendency towards disintegration, which, under similar circumstances, would make havoc with a business organization. As the bond of security which money constitutes may be strained to the point of breakage, which is insolvency, it is not impossible that the bond of fraternity and brotherhood may prove to have its limit of resistance, beyond which would lie disintegration." After referring to the low rate of mortality in relation to insurance, he urges that societies adopt proper methods, and he states: "When this is done the bond of fraternity or brotherhood, instead of losing its power, will be increased many fold, and the future of the orders can be made as assured as their work is beneficent."

In these opinions, Mr. Eldridge is undoubtedly correct. If the financial system is wrong, the bonds of brotherhood cannot ultimately hold the members together; and a point is reached "beyond which lies disintegration." It is equally true that a correct method is just as easy to manage as an incorrect one. The argument, that the adoption of correct rates would apparently increase the payments of members, has no place in the discussion. Insurance cannot be sold below cost without the result following of the insolvency of the society or company, that is foolhardy enough to make the attempt. Mr. Fouse, the scholarly advocate of the Lapse of Decrement Reserve System, condemns the unwarranted assertions that have been made by some advocates of the assessment system, that insurance can be furnished at the low prices they claim.

Why should societies shrink from a valuation of their insurance? If they are in a sound financial position, would not the knowledge of this be a great satisfaction to the members? If they are not in a sound financial condition, can this fact be discovered and made known too soon? The words of the Rev. C. J. Radley, who took so much interest in the Ancient Order of Foresters in Great Britain, are of special value. In addressing his fellow-members, he stated that "it should be distinctly under-

stood that in remedying deficiencies, delays are doubly dangerous, and after it is once known, the solvency is less than 20s. in the £, every payment made in full reduces the chances of the remainder of the members."

The researches of Meech, Fouse, Neison, and Eldridge, have rendered it possible for societies to value their insurance, making a fair allowance for the profits to be derived from lapses or secessions. For the leaders in societies to carry on their work, and neglect this plain duty, can hardly be regarded as anything less than criminal negligence. It would be a similar act of folly if a bank with a large capital, large deposits, large discounts, failed to take stock of its affairs, and, consequently the directors did not know how its financial matters stood. The universal demands of the members of insurance societies would be, "Give us a sound system; we will pay the rates necessary to produce solvency." The first great consideration that ought to govern the action of every member should be that he is not paying into a concern that in the very nature of things must go down as the members gradually grow older, and ever increasing death and sickness rates have absorbed all the contributions of the persistent members, "leaving nought but grief and pain for promised joys."

We have heard far too much of the good done by friendly societies, when the method of doing it was not wise nor equitable. It seems, on the surface, a benevolent act to pay the family of a deceased member \$1,000, to help them along in the time of bereavement. But to do this, 100 members must contribute each \$10, or 1,000 members \$1. If these contributing members are sure that when their turn comes to go their families will receive similar benefits, then all is right; but if there is no certainty of this; indeed, if there is every certainty that they will not, then the work of fraternity becomes a fraud. The paying members fully expect in their turn to be treated as they are treating others. They are living in a hope that cannot be realized. One very large fraternal society, a short time ago, officially announced that the average age of its members was about five years greater than the average at which they had been admitted. Could there be any stronger proof than this, that, without a proper reserve on hand, "new blood" will not save such an institution?

In conclusion, I would state that all companies or organizations doing insurance may be classified as follows, after Eldridge:

1. The Limited Premium, or Legal Reserve Companies.
2. The Flexible Premium, or Assessment Companies, collecting fixed periodical payments, with the reserved rights of additional assessments.
3. Post-mortem Assessment companies, embracing,
 - (a) Fraternal orders.
 - (b) Business organizations.

It has been already shown that, if the business management is careful, the first class is on a permanently stable basis. It has also been shown that if the rates collected are sufficient, and the standing of each company is subjected to frequent valuations, the second class, with good management may also be rendered stable, and kept, from valuation to valuation, in a solvent condition. Further, it has been shown that so far as class three is concerned every principle of life insurance is violated, and sooner or later, such organizations must come to destruction and pass out of existence, after the expenditure of much time and money in the effort to perpetuate a huge blunder. These huge blunders are the outcome of empirics working with tables and rates the meaning of which they do not understand. As an illustration of this, a leading society man asked me a short time ago: "Why did the 'old line' companies charge a man aged 20 years about \$16 for a life policy, when the death rate at that age was about 7 per thousand?" This is a fine example of how these tables are misapplied.

Mr. Fouse has distinctly stated that though the death rate may be below that expected, the regular premium should be collected, as the law of averages is bound to prevail. Mr. Eldridge has declared that he knows of no reason for supposing that assessment societies can furnish life insurance, as such, cheaper than regular companies. In other words, the law of mortality must be met in the society as in the company. Both these gentlemen are actuaries, and connected with very large assessment companies. But they see, both from experience and study, that life insurance must cost a certain amount, and they are too fearless and honest to hold out any false hopes.

There is actual history, however, to fall back upon. The leading assessment companies of the United States have been for years reporting to a central bureau their actual death rate. The result is that 22 societies had a death rate in the sixteenth year of 30 per 1,000. If any, or all, of these societies had no reserves on hand, and issued 30 assessments in one year, it would soon be seen whether the mutual or fraternal bond could hold them together or not. It is utter folly to expect always a low death rate because it happens to be so in the early years.

Now for the remedy. Let societies making use of the post mortem assessment system abandon it, and adopt a suitable table of rates and ample provision for frequent valuations. In the case of other societies, issuing a certain number of regular assessments yearly, the advice of competent experts should be taken at once to determine whether the amounts collected are sufficient; and, if not, to have them adjusted, and then keep them right by the safeguard of taking stock in the form of a valuation. Without this, all else is guesswork.

