PRACTICAL REMARKS

ON THE PRESENT STATE OF

LIFE INSURANCE IN THE UNITED STATES.

SHOWING THE EVILS WHICH EXIST, AND RULES FOR IMPROVEMENT.

To which are added the valuable Tables of associated Actuaries, now printed for the first time in the United States.

BY

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AUTHOR OF THE "EAST INDIAN REVENUE SYSTEM," WRITTEN BY "DESIRE OF THE PRESIDENT AND VICE PRESIDENT AND MEMBERS OF THE MANCHESTER CHAMBER OF COMMERCE AND MANUFACTURES," ETC., ETC., ETC.

"You cannot reason from fire and marine, to Life risks at all. The Life risk will certainly terminate in a loss to the Company."—LEWIS POCOCK.

"The practice of LIFE INSURANCE in any country indicates a state of society, where high moral feeling and commercial confidence exist."—JENKIN JONES.

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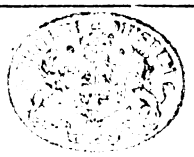

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PREFACE.

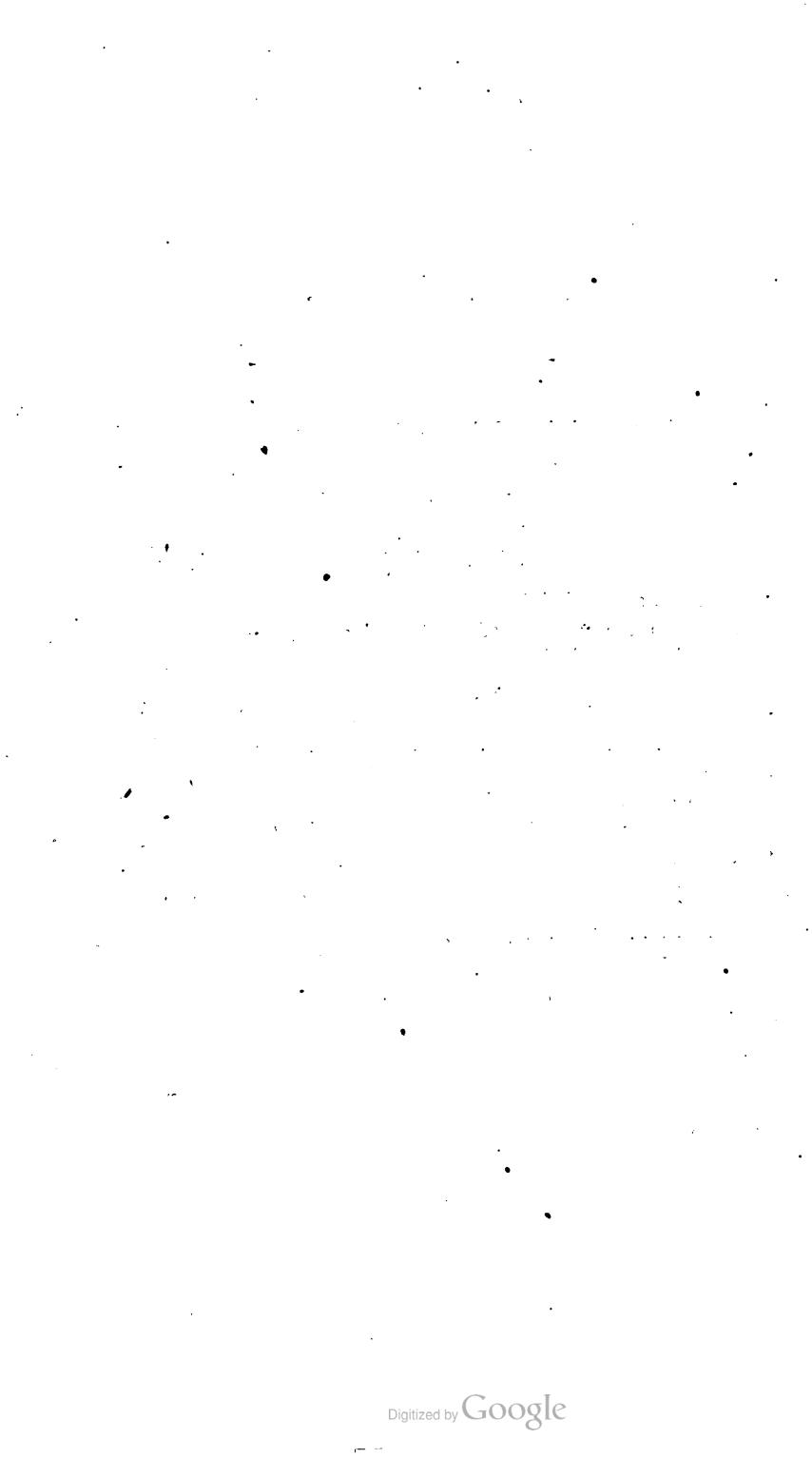
THIS TREATISE is intended not only for the use of INSURERS throughout the United States, but as an easy reference for all persons interested in the *practical* application of the science of Life Insurance.

The evils of a purely speculative competition, which are now developing themselves throughout the UNION, in the form of—"eighty per cent. dividends"—"low premiums"—and "promissory notes,"—are clearly pointed out, and their injurious effects to the INSURER demonstrated by a reference to the "Tables of Mortality" and the "Rates of Compound Interest," the only legitimate foundation of LIFE INSURANCE.

Had there been any work published in the UNITED STATES, to which the INSURER could refer with CONFIDENCE, I should have refrained from appearing before the public. But, as I find the most baneful effects arising from the fallacious statements put forth daily by interested speculators to cajole INSURERS, I have considered the work of a PRACTICAL ACTUARY the most useful offering I could make, and the best protection for this "SAVINGS' BANK FOR THE WIDOW AND ORPHAN."

H. G. TUCKETT, ACTUARY.

Philadelphia, March 1st, 1851.



PRESENT STATE

OF

LIFE INSURANCE IN THE UNITED STATES.

THERE are three descriptions of Insurance, viz. FIRE, MARINE, and LIFE. The two former differ from the latter in every respect, and not the slightest analogy exists between them.

In the case of FIRE and MARINE, the property insured may, or may not meet with loss, the chances are a thousand to one it will not, whereas in LIFE, the sum assured must be paid at some future period, DEATH being a certainty.

If a house is insured against fire, the premium is paid for "a *year*;" the risk of the office terminates at the end of the "*year*;" and both parties are open at the end of "that year" to continue the contract or separate, as they think proper; the house being as insurable at the fiftieth year as it was at the first.

If the house should be burnt, a portion of the property may be saved, and only a partial loss sustained. In Life Insurance there is no partial loss.

In Marine Insurance the premium is paid for "a *voyage*," the risk terminates with the "*voyage*," and both parties at the termination of each "*voyage*" can continue or declare off as they think most conducive to their interests. If the vessel is wrecked, a portion of the cargo may be saved, and though damaged, relieve the Insurers from a great part of their loss. In Life Insurance nothing is saved—DEATH TAKES ALL.

Fire and Marine Insurance Companies therefore can close their accounts at the end of every year, and arrive at a correct conclusion of their profit and loss. They may take their premiums in notes at short dates without injury to themselves. They may declare a dividend at the end of each year, if they have made a profit, without suffering the imputation of imprudence; and moreover, neither FIRE INSURANCE nor MARINE INSURANCE have anything to do with the compound interest of money, upon which the calculations of LIFE INSURANCE are based.

In LIFE INSURANCE, if the person taking out a policy is twenty-five years of age, it is presumed the contract will last thirty-seven years; at thirty years of age, the contract will last thirty-four years; at thirty-five

years of age, thirty-one years; at forty years of age, twenty-seven years; at forty-five years of age, twenty-four years; at fifty years of age, twenty years; at fifty-five years, seventeen years; and at sixty years of age, fifteen years. Therefore, at no intermediate period can the insured withdraw from his contract, *without great loss to himself;* for, he would not only lose the premiums he has already paid, but he would have to pay an *increased* rate of premium to another office in accordance with his increased age; and if his health has been impaired, he would be rejected altogether. In Life Insurance an altered state of health is fatal to effecting a new policy.

It therefore behooves every person, before insuring, to consider well the terms of the different offices—whether they be PROPRIETARY or MUTUAL: the rates of their Premiums—whether sufficient or not: and to regard with the greatest suspicion and distrust the tempting lures held out either under the name of bonus or dividend. The insurer's interest in the stability and permanent prosperity of a Company, in the security of the *principal* sum they have contracted to pay at his death, is incomparably greater than in the amount of any present distribution under the assumed name of profits of any offer of the shadow for the substance.

Life Insurance is not a speculation, for the principle of Life Insurance is based upon sound mathematical calculation, and will not admit of any variation. It is a plain matter of fact—"two and two make four." Different offices, to make their prospectus more tempting, may vary the position of the four units as they like; they may call "one and three" a better four than "two and two;" or, prove that "one, and two, and one" is a superior four to either; and as long as they only make FOUR, whether the Company be PROPRIETARY or MUTUAL, matters not; but, the moment they pretend to the insurers they have discovered a new method of making "TWO and TWO into FIVE," the Company may be set down as rotten, totally unworthy of public confidence, and sure to result in ultimate loss and dishonour to every one connected with the scheme—in the robbery of the widow and orphan.

There are three descriptions of LIFE INSURANCE Companies:

PROPRIETARY, which has a paid up capital and contracts to pay a specified sum at the decease of the insured, without either increase or reduction, in the amount of policy. These are mere trading companies, selling assurances to policy holders, as a merchant sells goods to his customers, and depending upon their good opinion.

The excellence of this class of office should be the superiority of the security—and the exemption of the assured from all responsibility from the engagements of the Company. They charge a proportionately lower rate of premium.

THE MUTUAL.—The policy holders are each ASSURERS as well as ASSURED, and consequently should be liable to all LOSSES* as well as entitled to all the PROFITS of the Association. The best authorities on life assurance say "for a Mutual Life Insurance Company to succeed the early members must contribute in *a much higher degree* than the subse-

*By the Mutual charters granted by the Legislature, no one insured is to be liable for LOSS beyond the premium he has paid; so that, in fact, there is no assurer. Queer ideas they have of Life Insurance.

quent members; indeed, there can be no doubt that the very large surplus capital accumulated in the London Equitable Society, has been derived from the *undue excessive* rates of premium, contributed by the early members, the benefits of which are altogether enjoyed by the families of others."

"It would thus seem evident that however much a Mutual Assurance Society may be a desirable office for a policy holder in its *maturity*, it cannot be so considered in its *infancy*, as it must, in order to be *safe*, require of its members a larger amount of contribution than would, under ordinary circumstances, be sufficient to provide for the claims assured."

Many Mutual Insurance Companies set forth the immense advantages which have accrued to the policy holders in the LONDON Equitable, as showing what may be done by MUTUAL COMPANIES in the United States; but in doing so, they are guilty of the grossest ignorance or the grossest deceit, inasmuch as they suppress the truth and cause of such success. The LONDON EQUITABLE was started in the year 1762. To a policy holder 30 years of age the premium charged was $4 per $100, whereas the highest premium charged in the States by MUTUAL OFFICES is $2 $\frac{16}{100}$ per $100. In 1782, AFTER TWENTY YEARS' EXPERIENCE, the Equitable declared their first dividend of one and a half per cent., or 30 per cent for the twenty years.

Contrast this with those "MUTUALS" who, in the first year, declare scrip dividends of 80 per cent.; thus entailing an enormous load of debt for future years upon the Company, whilst their premium is SEVENTY per cent. lower than the EQUITABLE (the office they quote from) was at its commencement.

In 1815, the London Equitable, at a meeting of their POLICY HOLDERS, passed a resolution that only the first FIVE THOUSAND policies on the list, should share in the profits; there being then NINE THOUSAND policies in existence. In consequence of this rule, it now requires a policy to be held at least TWENTY-TWO YEARS before the party can participate in the profits. In the United States, there are Mutual Companies pretending to be based upon the principles of the London Equitable, in which, if the insurer will pay a premium on the 31st December, they will give him a dividend *three* times as large as that of the Equitable, on the first day of January. In one night the great "Mutual" power works a whole year's profit!!!!

Out of eighty Life Insurance Companies in London, six only are Mutual Companies—the remainder offering the advantages of the "mixed;" that is, a low rate of premium if the party insure without Profits; a higher rate if he insures with a participation to the extent of two-thirds of the Profit.

It is now my intention to lay down as simply as possible the principles upon which the calculation of Life Insurance is based. The first principle is an estimate of the average duration of Life, formed from observations among large masses of mankind, during an extended period of time. These are called the Tables of Mortality. The table most usually adopted is the Carlisle, this being the most favourable to the insurer; and within a fraction of "THE LAW OF MORTALITY AMONGST ASSURED LIVES," deduced from 62.587 assurances, under the superintendence of a committee of eminent actuaries.

THE EXPECTATION OF LIFE,

According to the Carlisle Tables of Mortality.

Age.	Expectation in years and 100ths.	Age.	Expectation in years and 100ths.	Age.	Expectation in years and 100ths.	Age.	Expectation in years and 100ths.	Age.	Expectation in years and 100ths.
At Birth.	38.72	21	40.75	42	26.34	63	12.81	84	4.39
1	44.68	22	40.04	43	25.71	64	12.30	85	4.12
2	47.55	23	39.31	44	25.09	65	11.79	86	3.99
3	49.82	24	38.59	45	24.46	66	11.27	87	3.71
4	50.76	25	37.86	46	23.82	67	10.75	88	3.59
5	51.25	26	37.14	47	23.17	68	10.23	89	3.47
6	51.17	27	36.41	48	22.51	69	9.70	90	3.28
7	50.80	28	35.69	49	21.81	70	9.18	91	3.26
8	50.24	29	35.00	50	21.11	71	8.65	92	3.37
9	49.57	30	34.34	51	20.39	72	8.16	93	3.48
10	48.82	31	33.68	52	19.68	73	7.72	94	3.53
11	48.04	32	33.03	53	18.97	74	7.33	95	3.53
12	47.27	33	32.36	54	18.28	75	7.01	96	3.46
13	46.51	34	31.68	55	17.58	76	6.69	97	3.28
14	45.75	35	31.00	56	16.89	77	6.40	98	3.07
15	45.00	36	30.32	57	16.21	78	6.12	99	2.77
16	44.27	37	29.64	58	15.55	79	5.80	100	2.28
17	43.57	38	28.96	59	14.92	80	5.51	101	1.79
18	42.87	39	28.28	60	14.34	81	5.21	102	1.30
19	42.17	40	27.61	61	13.82	82	4.93	103	0.83
20	41.46	41	26.97	62	13.31	83	4.65	104	0.50

Example at the age of 30—the expectation is $34\frac{34}{100}$ or 34 years and four months, that a person then in sound health has a probability of living. The Carlisle Table is too high an estimate of life for the United States—where the average duration is nearer the Irish expectation.*

The next principle is the accumulation of money at compound interest, the rate of which is generally assumed throughout the United States at 6 per cent.; but it may be reasonably doubted by business men, if 5 per cent. can be realized for a long term of years (admitting there should not

* An office may calculate upon receiving upon the "Tables of Irish Life"—at 20 years of age only thirty-five premiums instead of forty-one; at 30 years of age only thirty premiums instead of thirty-five; at 40 years of age only twenty-four premiums instead of twenty-eight; and at 50 years of age only eighteen premiums instead of twenty-one.

The average American rate of pulse is FIFTEEN BEATS PER MINUTE HIGHER than the English. This FACT has been ascertained from actual comparison of the medical examinations in both countries. This being the case, "what must be the consequence with those offices which already take risks at rates of premium too low even for the English lives?"

be any losses from fraud or bad investments), and prudence dictates that the *minimum* rate of interest should form the basis of operations which are to extend over a period of more than half a century.

COMPOUND INTEREST TABLE,

Showing the amount of one dollar per annum, forborne and improved, for any number of years, from one to sixty.

Years.	5 per cent.	6 per cent.	Years.	5 per cent.	6 per cent.	Years.	5 per cent.	6 per cent.	Years.	5 per cent.	6 per cent.
1	1.00	1.00	16	23.65	25.67	31	70.76	84.80	46	168.68	226.50
2	2.05	2.06	17	25.84	28.21	32	75.29	90.88	47	178.11	241.09
3	3.15	3.18	18	28.13	30.90	33	80.06	97.34	48	188.02	256.56
4	4.31	4.37	19	30.53	33.75	34	85.06	104.18	49	198.42	272.95
5	5.52	5.63	20	33.06	36.78	35	90.32	111.43	50	209.34	296.33
6	6.80	6.97	21	35.71	39.99	36	95.83	119.12	51	220.81	308.75
7	8.14	8.39	22	38.50	43.39	37	101.62	127.26	52	232.85	328.28
8	9.54	9.89	23	41.43	46.99	38	107.70	135.90	53	245.49	348.97
9	11.02	11.49	24	44.50	50.81	39	114.09	145.05	54	258.77	370.91
10	12.57	13.18	25	47.72	54.86	40	120.79	154.76	55	272.71	394.17
11	14.20	14.97	26	51.11	59.15	41	127.83	165.04	56	287.34	418.82
12	15.90	16.86	27	54.66	63.70	42	135.23	175.95	57	302.71	444.95
13	17.78	18.88	28	58.40	68.52	43	142.99	187.50	58	318.85	472.64
14	19.59	21.01	29	62.32	73.63	44	151.14	199.75	59	335.79	502.06
15	21.57	23.27	30	66.43	79.05	45	159.70	212.74	60	353.58	533.12

By the table of mortality at the age of 30, the probability of life is 34 years, by the Pennsylvania tables of Life Insurance, the premium charged at 30 years of age is $\$2\frac{88}{100}$. *Question.*—What will this amount to at 6 per cent. compound interest? *Answer.*—In 34 years at 6 per cent. compound interest, one dollar will amount to one hundred and four dollars and eighteen cents ($\$104\frac{18}{100}$), which multiplied by $\$2\frac{84}{100}$ the amount of premium, will give $\$246\frac{88}{100}$.

I would have the reader fully understand, as will be explained in the following paragraphs, that instead of $\$2\frac{88}{100}$ being the sum placed at compound interest, *that 45 per cent. has to be deducted*, the actual amount to accumulate being only 55 per cent., or one dollar twenty-nine cents ($\$1\frac{29}{100}$), which in 34 years would amount to one hundred and thirty-four dollars $\frac{39}{100}$ ($134.39), instead of $\$246\frac{88}{100}$.

Although the probability is that an individual thirty years of age *may* live 34 years, and his premium increase at a compound interest of 6 per cent. to a nominal $\$246\frac{88}{100}$, yet it can be easily understood that a very large proportion of the insured, beginning with the very first year, will die, having paid only one or two premiums before their lives lapse; and let the reader always bear in mind that it is the first grand scheme of Life Insurance to provide not only for those who die young, but also to afford secu-

rity to those who live for a long term of years, that the amount of their insurance will be paid.

If 1000 persons, of 30 years of age, insure their lives, 6 of those persons will die in the first year. It would therefore require each to contribute sixty cents for that year to pay the loss of $100 each, or $600 in all to the representatives of these six persons.

In calculating the premium for Life Insurance, 20 per cent. is invariably added for expenses and commission to agents, which, on $2\frac{36}{100}$, would be $\frac{47}{100}$.

The nett value of a premium is 55 per cent. of the gross amount charged to the policy holder. This 55 per cent. has to meet the "future increase of premium," "the deterioration of life," or to pay back to the party "the value if he surrenders his policy"—or "the sum for which another office would relieve them of their liabilities."

The Pennsylvania premium for $100 at 30 years of age, is $2\frac{36}{100}$

Deduct expenses at 20 per cent. $\frac{47}{100}$

Deduct proportion for 6 deaths per 1000 $\frac{60}{100}$

Deduct nett value, being 55 per cent. of premium $1\frac{29}{100} = 2\frac{36}{100}$

To arrive at the amount of premium for a person one year older, the nett value or $1\frac{29}{100}$ is invested at 5½ per cent. interest, which produces for the next year $\frac{7}{100}$, which, added to $2\frac{36}{100}$, the second year's premium, gives $2\frac{43}{100}$, the premium for 31 years of age.

The importance to the insured of an honest and safe investment of this 55 per cent. must be apparent. It is the fund which has to meet the subsequent deterioration of life, the $(1\frac{29}{100})$ one and twenty-nine hundreths of life which pass annually away: for though of 1000 persons insured at 30 years of age, the deaths would only be 6 per annum for the first three years; yet at the termination of even that short period, there would be many of the policy holders whose health would have so deteriorated that if they were offered again for medical examination, they would be rejected. Besides, at 48 years of age the annual premiums received, and the losses by death, would equally balance each other; and after that, this reserved and invested 55 per cent. would be required to pay the annually increasing excess of death over premium.

It becomes absolutely necessary, therefore, for the *solvency* of a Company, whether the Company be PROPRIETARY, MIXED, or MUTUAL, that this 55 per cent. of the gross amount of premiums received in each and every year be permanently invested, and subjected to a careful examination and valuation by an Actuary, at the expiration of every seven years.

From the foregoing example of the "expense," proportion of "deaths," and "nett value of premium," it will be seen there is not a single cent to spare for profit, and the premiums which were sufficient for "the Pennsylvania," as a Proprietary Company, have been *assumed*, not *calculated* for Mutual Companies, and are so low that it can only be after a number of years that a SURPLUS MAY accrue from a saving on the 20 per cent. allowed for expense, and the careful selection of lives, being less than the loss predicated by the tables.

The amount of premium to be compounded at 6 per cent., is not, therefore, as has been explained, the whole premium of $2\frac{36}{100}$ at 30 years of

age, but only $1\frac{38}{100}$, which, if the insurer live the whole period of 34 years, will amount to $134\frac{30}{100}$.

I regret to say that in estimating the superior advantages of Mutual Companies in the prospectuses set forth by offices in Pennsylvania and Maryland and several of those to the eastward, I have not met with a solitary instance where a single cent has been admitted in the calculation for "expenses," "deaths," or "deterioration of life," but every "example" has assumed that each person would live out his expectation, at a full rate of compound interest on his whole amount of premiums, and so make a glorious profit for the members.

In the prospectuses of these Companies, long quotations are given in favour of Mutual Companies, but I regret to say with the most culpable disingenuousness. They omit the basis upon which the approbation of Mutual Companies has been expressed by De Morgan, Babbage, Chambers, and other writers on Life Insurance, viz; "THAT THE HIGH AMOUNT OF PREMIUM IS OF NO CONSEQUENCE, AS THE SURPLUS IS RETURNED IN THE SHAPE OF PROFIT."

The Equitable of London, whose great success is invariably appealed to, it must be remembered, enjoyed for many years a *monopoly*. The rates of premium charged by them were *enormously high*, seventy per cent. above the Pennsylvania rates—and though now reduced nearly *one-half*, are still infinitely higher for the younger lives than the premium charged by any Mutual office chartered in the United States. In addition to this, the Equitable of London invested their money in the purchase of government stocks at very low prices. From the year 1779 to 1786, the average price of the 3 per cents was about 60; from 1796 to 1816, it was below 60, and in the latter year, as the public funds began to rise in value, the mutually insured came to their declaration that only the first 5000 policies should be allowed to divide profits, there being at that time upwards of 9000 policies on their books.

By many Mutual Life Insurance Companies it has been assumed that a dividend of *two per cent.* per annum can be declared every five years, without the necessity of a patient and careful examination of their books. This is altogether a fallacy. It would require a very high degree of prosperity in an office to be enabled to grant a dividend of two per cent. per annum, every five years, and yet be in such a position as would enable them to wind up their affairs with honour and reputation. I would solicit the reader's careful examination of the following tables (B and B) showing the condition of 862 persons, whose lives are assured at the age of thirty, and who die in the due course of nature.

Of one thousand persons alive at 10 years of age, only 862 would reach the age of thirty. If these 862 persons were then to form themselves into a Mutual Insurance Company, and each person insure his life for $100, the premium to be that charged by the Pennsylvania rates, viz.: $2\frac{34}{100}$ per hundred, and a dividend to be granted of two per cent. per annum, or ten per cent. every five years, the result would be as shown by the following table, and an actual *deficiency* of $39,323 would occur, the loss falling entirely upon 132 persons, who would have paid their premiums for

55 years and upwards, and arrived at the ages of 85, 90, 95, and 100, respectively.

Each person at 30 years of age is calculated to have the probability of living thirty-four years and four months, that is, to the age of 64 years and four months. But it will be seen that out of 862 persons alive at the age of 30, only 467 persons arrive at the age of 65, there being 395 *previous deaths* to provide for, each of their policies bearing heavy accumulations of dividends or assumed profits. If the society were then to be dissolved, there would be 467 policies unsatisfied; the whole amount of the funds would be $39,505\frac{98}{100}$, and the average to the credit of each policy only $84\frac{66}{100}$. So much for presumed profits and anticipating the funds of the Company. At the fourth period, or 50 years of age, the premiums and deaths balance each other, the losses by deaths (see the table B) amount to 9760; and while the premiums amount to $9228\frac{63}{100}$, then it is the reserved 55 per cent. saves the remaining 634 policy holders from ruin, and the power of compound interest takes practical effect, and proves itself the very essence of Life Insurance.

The foregoing tables, B. and B., have only presumed a profit of TWO (2) PER CENT. per annum, and have shown that a dividend of that amount at the Pennsylvania rates of premium would require extreme caution—extreme good fortune, and a careful examination of the books, at each quinquennial period. What then must be said of those MUTUAL INSURANCE COMPANIES, those "*little goes*" which advertise dividends of fifty, sixty, and eighty per cent? I have now before me the prospectus of a Company which has been in operation five years, and which gives a statement of its disbursements and assets. In their last nine months this Company have received $122,642 *premiums*. Their expenses and losses by deaths in the same nine months have been $74,559. Their actual cash assets amount to $180,401, and upon this they grant "DIVIDENDS TO THE CREDIT OF DEALERS" for 1846, 1847, 1848, 1849, 1850, amounting to ONE HUNDRED AND TWENTY-SIX THOUSAND DOLLARS!!! Is it possible that the sound common sense which exists in so great a degree in the American people, can be so grossly misled—I would say, insulted; and yet this Company have near 5000 policies in existence. "Those who choose to pay the whole premium in cash, will, after 13 years, have no more to pay IF THE CALCULATION OF 50 PER CENT. DIVIDENDS PROVES CORRECT; assuming the rate of interest to be 6 per cent., and that they suffer it to accumulate to their credit through that period"—so says the prospectus of this Company. Let the reader judge for himself from their own statement.

Premiums received as above in 9 months,	$122,642
Deaths and expenses for 9 months as above, being 61 per cent. of the premiums received,	74,559

Out of every hundred dollars, therefore, to meet the deterioration of life, to accumulate at compound interest and to pay the individual loss, there remains only 39 per cent. Let the reader observe how this will work. Take the age of the insurer at 25 years next birth day; his expectation of life is 38 years; let the sum he insures be $5000, and the premium $100 per annum.

Then 89 per cent. or $89 per annum, forborne and improved at 6 per cent. per annum for thirteen years, will be $636 12/100.

(The present value of $5000 at 6 per cent. due at the expiration of 25 years, is eleven hundred and sixty dollars.)

Let this $636 be improved at 6 per cent. compound interest for 25 years, and the amount is $2728 44/100, or little more than fifty per cent. of the sum insured ($2272 less than the amount insured), without any charge for expenses or the deaths which take place, and for which this premium is proportionably chargeable between the 13th and 38th year. A loss of $2273, as a single instance, may appear insignificant; but take 5000 policies issued upon the 50 per cent. dividend principle, and they would *create* in the 38 years a deficiency of no less a sum than ELEVEN MILLIONS THREE HUNDRED AND SIXTY-FIVE THOUSAND DOLLARS.

Life Insurance has been called the art and mystery of compounding money. If A. pays B. $100, which sum B. places at 6 per cent. compound interest, at the end of the year he will have $106; but if B. gives A. back $4 50/100 dividend, he (B.) will only have $101 50/100, and will be compounding at only one and a half per cent.* If this Company of five years' standing modestly offers 50 per cent. profit, another Company in the first and second years of its existence, with equal modesty has granted an 80 per cent. dividend in both years. As Insurance Companies do not publish a statement of their *liabilities* in the State of Pennsylvania, and have gone so far as to obtain an act of the Legislature to protect them from any such inopportune exposure of their affairs, the value of their policies outstanding can only be taken from an average deduced from the amount of premiums received. The Table C is an analysis of the statement of assets put forth in the years 1848 and 1849, by a company advertising eighty per cent. dividends, a guarantee capital, and note of hand payments. Their premiums charged are correct; the business they have transacted in two years and eight months is a fair average; and may ultimately (say 20 years hence) afford a one and a half per cent. dividend; making it the more lamentable that the officers and trustees should have fallen into so grave an error as to promise eighty per cent. dividends, and allow their agents in different states of the Union to publish the most visionary and outrageous statements of an *imaginary* return of premiums.

The Company whose affairs are analyzed in the Table C for the years 1848 and 1849, have since published the statement of their business for the year 1850; and, it is to be hoped, have at last discovered the fatal mistake they made in attempting to force business by the promise of *eighty per cent.* Dividends. The total receipts of the PENN MUTUAL *for the year ending 1st January* 1851 have been $115,195 11/100, and in accordance with the principles laid down (see p. 10,) and worked out in the Table C, it will be now shown what *is* and what "*should*" be the state of this Company, and the extent to which the interests of *all future* insurers have been compromised.

By a reference to Table C the reader will find the PENN should have

* One dollar *per annum* at one and a *half* per cent. in sixty-two years at compound interest will amount to one hundred and one dollars 13-100. One dollar per annum at *six* per cent. in sixty-two years (the same time), at compound interest, will amount to six hundred and one dollars 08-100. It is on six per cent. compound interest the premium is calculated.

No. 1. 1848. 55 per cent. Protection fund, - - -		$24,000
Add interest on above 6 per cent., - -		1,440
No. 2. 1849. 55 per cent. Protection fund, - - -		38,500
Total,		$63,940
Add interest on above 6 per cent., - -		3,838
To these add No. 3. For 1850. 55 per cent. Protection fund,		59,690
* Total Reserve or Protection fund,		$127,468

In accordance with the principles of Life Insurance, the actual possession of this sum, $127.468 *free from any claim*, is requisite for the safety of the Insured.

The "losses" and "expenses" of the PENN from its commencement, are given in their printed statement, 14th January 1851, and afford a striking instance of the truth of scientific calculation as opposed to speculation—when contrasted with the "receipts."

	Losses and Expenses.	Total Receipts for the Year.
Year ending Dec. 31, 1848,	12,300	44,158
Year ending Dec. 31, 1849,	32,650	74,360
Year ending Dec. 31, 1850,	60,678	115,190
	105,583	233,708
Deduct expenses,		105,583
Balance,		128,120
By the previous calculation total Reserve fund required,		127,468
		652

From this it will be seen that the actual difference, $652, between the *receipts* and *expenditure* as given by the Company in their own statement, and the actual Reserve fund—by calculation—required by the principles of Life Insurance laid down in this work—is only six hundred and fifty dollars, a difference caused by policy fees and other trifling disturbing causes.

How different is the real state of the case when the statement of the Company is examined in connexion with these Eighty per cent. dividends —the *incubus* imposed on all future insurers—

80 per cent. Dividends of 1849 and 1850, -	$60,760	
Interest on same due January 1st, - -	8,645	
40 per cent. Dividend of 1851, - - -	32,456	
Interest on Guarantee capital, - -	4,025	
Reserve fund required, January 1st 1851, -	127,468	$228,354
Whole actual assets by statement, - -		142,682
Existing liability against the Guarantee capital,		$ 75,672

* *Reserve or Protection fund.* The following example will show the necessity of this fund. By the Penn Mutual's printed statement, 31 Dec. 1848, the gross receipts were $44,000, claim for death $5000, being *eleven cents* in the dollar of receipts— Dec. 31, 1849, gross receipts $74,360, claims for death $15,500, being *twenty ½ cents* in the dollar of receipts. Dec. 31, 1850, gross receipts $115,195, claims for death $48,000, being *forty-one ½* cents in the dollar of receipts. In three years the claims for death increased from *eleven* to *forty-one* cents per dollar of the annual receipts.

So that if the affairs of this Company were wound up, and the "Guarantee Capital" is good for anything, it would be all required except four thousand three hundred and twenty-eight dollars.

The original intent of these Scrip dividends, was to *force business*—by inducing parties to insure under the prospect of immense immediate advantages. To grant *Scrip* and pay the interest only, considering the payment of the principal a thing to be postponed to the Greek kalends or some equally indefinite period, was the first idea; "but old father antic the law" stepped in and upset the calculation. There is an old saying, "death waits for no man," and the *lawyers* have discovered that the 80 per cent. SCRIP dividends, by the act of incorporation, *are payable at* DEATH. The following are the 14th and 15th sections of the act of incorporation under which the 80 per cent. dividends were granted.

§ 14. The officers of the said Company shall on the first Monday in January of every year cause a statement to be made of the affairs of the Company and a balance to be struck of the profit and loss account, *and if there is a surplus after paying all losses and expenses of the said Company, they shall credit each member with such proportion of said surplus* as the premium paid by him or her or them on risks determined may be, to the aggregate amount of premiums earned during said year by the Company.

§ 15. And in case of *the death* of any member of the said Company, *the amount standing to his credit at the time of his death, together with the amount of the policy in his name, shall be paid over to his legal representative or assignees within sixty days.*

So totally ignorant were the parties of LIFE INSURANCE that this is a FIRE INSURANCE clause, whereby the risk ceases and determines every year. Had they insured *lives* as "*fire* offices" do *houses*, only from year to year and not for *Life*, the thing might have answered! A one year's premium at 30 years of age is $\$1\frac{20}{100}$ by their own tables; whilst a whole life risk is $\$2\frac{68}{100}$, from which latter if 80 per cent. is deducted ($\$1\frac{88}{100}$), the whole amount left for expenses, risk, in fact for everything, is *forty-eight cents*, little more than one third of a one year's risk. However, all they imagined they would have to pay was the 6 per cent. on the 80 per cent. dividend, and now that the error has been discovered and that the Scrip is payable at death, an application to the Pennsylvania legislature has so far remedied the future—that the Penn Mutual *must* provide for *all* outstanding risks before they can credit any member with a profit, and the *future Insurers* will have to pay *ninety-four thousand dollars* for the benefit of their predecessors.

The CONNECTICUT MUTUAL have now by their statement 13,000 policies in existence, with a liability exceeding (21,000,000) Twenty-one millions of dollars. They have granted dividends, as they advertise, averaging 61 per cent. The New York go in for 50 per cent. The "UNION of Boston" for 80 per cent., and other offices for any fancy dividend that may suit the state of the market or the opposition necessary to a rival establishment.

A supplementary table A has been added, showing what the result of a 40 per cent. dividend *must be*—viz: INSOLVENCY, BANKRUPTCY, and ruin to all. The number of lives taken are those of the *Carlisle* table, and the calculation is worked by the number of deaths which take place each year in accordance with that table—there is no mystification, no

equivocation—the Carlisle Table, so often quoted yet so little understood, is the *bona fide* basis of the calculation, and the *Carlisle* table itself is added (Table D) that the reader may judge for himself of the fallacies daily proposed by speculating offices.

At 37 years of age, by the Carlisle table of mortality, 5251 persons are alive. By table A these persons mutually insure each other in the sum of $100, each paying the *annual premium* $2\frac{90}{100}$, and making *annual* dividends of 40 per cent., which dividends are calculated as *paid*. Their expenses are taken at 10 per cent. on the premiums of the year—and every advantage is afforded to the insurers, notwithstanding all of which, it will be observed that in the thirtieth year they are bankrupt with 2771 claims unsatisfied. As *Quack* Doctors never practise surgery—so 80, 60, 50, and 40 per cent. dividend Life Insurance offices never employ professional *Actuaries*.

In examining table A the reader should fully understand, that the real insolvency of a Life Insurance Company actually occurs whenever its funds are not sufficient to cover all its engagements; "*whenever the sum remaining in hand does not amount to what an office charging similar rates would relieve them of their liabilities for.*" See p. 24.

The 5251 individuals in table A, ignorant of the principles of Life Insurance, would imagine they were doing a famous business until surprised by actual Bankruptcy; for example,

At the end of the first	5	years they had	$11656\frac{10}{100}$,	they should have had	$34946\frac{38}{100}$
"	"	10	"	"	$19818\frac{01}{100}$,	"	"	$57194\frac{78}{100}$
"	"	15	"	"	$30847\frac{86}{100}$,	"	"	$105925\frac{57}{100}$
"	"	20	"	"	$39216\frac{31}{100}$,	"	"	$142408\frac{20}{100}$
"	"	25	"	"	$27237\frac{74}{100}$,	"	"	$159605\frac{34}{100}$
"	"	30	"	"	*bankruptcy*,	"	"	$158940\frac{49}{100}$

The foregoing example *it is to be hoped* will prove to *all insurers* the incompatibility of 40 per cent. dividends and solvency. The calculation is made from the Carlisle table of mortality, and with the numbers actually given in that table, as living and dying in each year, so that all misrepresentation on the part of *interested* persons can be fully tested.

In LIFE INSURANCE THERE IS NO PROFIT. In a Proprietary Company there may be *profit* to the *stockholder*, but (it is repeated, for it cannot be too firmly impressed upon the mind) in Life Insurance, to the insurer there is no such thing as *profit*. The premiums are calculated in accordance with certain tables of mortality, and a certain rate of compound interest—to which is added a certain sum for expenses. It is calculated the whole of this sum will be required, and experience has shown that for many years it will be required. If then by any fortunate series of events it should happen that the whole sum should not be required, and that a small portion of it should remain unexpended, such unexpended portion is not *Profit* but *Savings*. For instance, let a person put by $1200 for his household expenses for the year—at the end of the year, if he has, by provisions being cheaper, house-rent less—or any other fortunate circumstance—only expended $1000, he will have *saved* two hundred dollars, but he would laugh at any one calling it Profit. So it is in Life Insurance, a *saving* may be effected—and every *five* years, when those *savings* are

actually and correctly ascertained, they may be divided; but, if the integrity of the office is to be preserved, the *bonus* must be ascertained *savings* from the past—and not, as in the case of the 80, 60, 50, and 40 per cent. dividends, "*presumed Profits*" chargeable to future insurers, and to a certainty eventuating in insolvency and bankruptcy.

If the dividends are a *reality*, pay them. They are either "something" or "nothing"—and the science of the Actuary proves they are an injury and a fiction.

It is generally asserted that no Mutual Life Insurance Company has been known to fail, but erroneously; an immense number have been obliged to wind up and amalgamate with other Companies, paying the value of their policies, that is to say, 55 per cent. on all premiums received anterior to the present year, and the premium of current year in full. David M'Pherson says in his Annals of Commerce:

"Out of above two hundred visionary schemes that were formed and carried into effect at the time (1726), only *four* Life Insurance Companies exist at present, viz., the Royal Exchange, the London, the York Buildings, and the English Copper Companies." After the Equitable of London was established in 1762, a number of other societies were projected, "being for the most part, however, *false* in *principle* and *mischievous* in *effect*, and the names of which are now lost and forgotten."—(Pocock *on Life Insurance.*) Mr. Babbage, the celebrated calculator, has justly remarked that "it is lamentable to observe the readiness with which men of wealth and character attach their names to Companies with whose *principles they are totally unacquainted.* The respectability of an undertaking is too often inferred from the names under whose sanction it is introduced; and the facts stated in the prospectus are believed to have been examined into, and are considered as vouched for."

It becomes, therefore, essential for every one to examine and judge for himself, and not to be led away when selecting an office for insuring his life by high-sounding names; a want of proper attention to this point may be the means of occasioning disappointment and loss to the unfortunate individual, who, whilst *following the shadow, loses sight of the substance.*

It has been shown that no Life Insurance Company can, with security to its constituents, declare an annual dividend. Neither can these offices nor any Life Insurance Company, take *promissory notes* in payment of the premiums without placing their institution in a position of extremely doubtful stability.

The promissory notes have been given by the insurers upon a tacit agreement that payment shall not be called for, unless upon a fair general average upon all the notes being actually necessary;* and the calling up such a general average, would at once destroy the prestige of the Company's success, and seriously injure the prosperity of all concerned.

From what has been said, it is obvious the policies of all those offices which take NOTES as a part of the premium are perfectly valueless in any mercantile transaction, or when required as collateral secu-

* The "Mutual Benefit" *commenced* by taking 25 per cent. "cash" and 75 per cent. "note." They now require 50 per cent. "note" and 50 *per cent.* "cash," showing how egregiously wrong they were in the beginning—and still are. They have been obliged to sue many of the insurers to recover the value of the notes—with what success may be imagined.

rity; thus depriving the insured of the only benefit he can derive from a policy during his life. In Marine Insurance the policy expires with the voyage, therefore a note has only a limited period to run. In Life Insurance the party must die before the *humbug* is discovered.

All the expenses and deaths must be paid in CASH, and the reserved fund will consist almost entirely of notes without any collateral security, and which no broker would give five per cent. for.

As eighty per cent. dividends are not part and parcel of the scheme of Life Insurance, neither is the note system; nor the guarantee capital system; nor the low rate of premium system; all of which are false in principle and mischievous in effect, and have been introduced by speculators totally ignorant of the whole science of Life Insurance.

Mr. Bethune says, in his highly valuable work: "The principal features to be traced amongst the inducements held out by offices recently established, are the advance of *money* to assurers upon approved personal security, and the permission to pay a portion only of the premium due, leaving the remainder to be repaid at compound interest, both of which plans are at variance with the original object of Life Insurance, which was to encourage habits of prudence in individuals by enabling them to make provision for their families."

By the promissory note system, if a man of thirty-five pays only *one-quarter* of his premium by notes for thirty-one years, the amount of his policy will be only *two-fifths* of the amount he pretends he is insured for; and at the hour of his death he will feel that he has been practising upon his wife and children a selfish fraud, by inducing a belief that they will receive $5000 when he knows they will only obtain $1707, the rest of the policy being required to pay the PREMIUM NOTES.

A GUARANTEE CAPITAL is in fact no capital, but useful as a means of paying five per cent. per annum to certain individuals for their own profit and emolument. An actual paid-up capital in Life Insurance is invested and earns in the public securities its own dividend of 6 per cent.; but a guarantee capital is a note placed in an iron safe, promising at some time to pay somebody, a sum for which no consideration has been received, and for which the giver is to receive a percentage of five per cent. A stockholder in the one case has a direct interest in the prosperity of the institution, because he has paid his money, and fears to lose it; in the other, the maker of a guarantee note has to foster in the insurers a belief in a nominal prosperity, by granting imaginary profits to them, and thus securing his own annuity from the Company. Much odium has been thrown on Proprietary Companies by the oft-repeated "assertion" that they take the *profits* which justly belong to the assured. A Mutual office that gives *five per cent.* for a guarantee capital, is precisely similar to a Proprietary Company that pays its stockholders *eleven per cent.*—only the Proprietary Company have the *money actually invested*, whilst the "Mutual" have promissory notes of questionable value. The following graphic description of a guarantee capital, published in the New York Herald, 15th May, 1850, is worth attention. "*Ex uno disce omnes.*"

"Several financiers of this city (being then, as now, supreme controllers of the company) determined to raise a 'guarantee capital' of $150,000. It was done,

and thus: one had unencumbered property to the amount of about $7000 or $8000. On this he gave a mortgage to the company for forty thousand dollars! Another had unencumbered property worth, I think, not over $1500; and yet he had the assurance to give upon it a mortgage for thirty thousand dollars! Other guarantors (!) acted even more rascally, but not on quite so extensive a scale. Thus it has been shown that these individuals took $70,000—nearly one-half of the 'capital'—and gave as security not more than $10,000 at the outside, and received at the rate of 6 per cent. per annum for the use of their mortgages. Had this capital been legal, the above-named financiers were cheating their brother stockholders out of $3600 a year; but as it was altogether illegal, the amount filched was $4200 a year. By the way, none of the mortgages alluded to were recorded; and if the capital even had been a lawful one, it would thus have been worthless."

There is no analogy between guarantying the payment of a commercial note, which is put into circulation—for which a consideration is received, and which becomes due at a given period, and the so-called guarantee capital of a Life Insurance Company, which guarantee notes have no one principle of fixedness, and are in the safe-keeping of the very persons who, if the notes were worth anything, would be liable for their payment, and who have the power to withdraw themselves from the institution whenever they foresee difficulties arising.*

In entering upon the subject of low rates of premium, I must beg the reader to study the figures which will be set before him, and I then feel confident he will at once see the impossibility of these low premium offices meeting their engagements after a few years, when their expenses and losses begin to eat them up.

The lowest rate which can be used at 30 years of age is $2\frac{4}{10}$ per $100, and this can only be adopted by a Proprietary Office with *a large actual paid-up capital*, to meet the extra claims in the early years of the Office.

This premium of $2\frac{4}{10}$ will allow deaths, per table,	-	60
Deterioration,	-	$1.29
For expenses,	-	15 or 7½ p. c.

The extra expenses, until the amount of the premiums is sufficiently large, *must* be paid BY CAPITAL, and it is this early assistance to premiums by capital, which gives capital a legitimate claim at a future period for a profit from Premiums.

But should the business, either from a want of knowledge of the officers of the society, or the contracted nature of their plans, and the consequent limited amount of their transactions, be allowed to stand still, or should the Institution lose public confidence, these rates will not suffice for a Proprietary Company.

The value of deaths, and the deterioration of life, are fixed by tables of mortality, the result of extensive statistical inquiry carried on through the nations of Europe for one hundred and sixty-three years; these two items, therefore, death and deterioration of life, must remain the same, whatever the nature of the Company, whether Proprietary, Mutual, or Mixed, and the *pro rata* for them is beyond the reach of speculation or speculators. These two items have been shown to be, the first $\frac{60}{100}$ for deaths in

* When an insurer applies, the Guarantee Capital IS A CAPITAL. When the *Tax Collector* calls, the guarantee capital IS NO CAPITAL. *Alter et idem.*

the current year, and the latter $\$1\frac{89}{100}$ for future deterioration and nett value of policy: together, one dollar and eighty-nine cents.

I have now before me the rates of a Company who fix their premium at 30 years of age at $\$1\frac{68}{100}$ per $100, or $(\frac{31}{100})$ thirty-one cents per hundred below the prime cost, without allowing a fraction for expenses, commission to agents, &c., &c., &c. Other Companies charge at 30 years of age $\$1\frac{78}{100}$, or $\frac{11}{100}$ eleven cents per hundred below prime cost, without allowing a fraction for commission (10 per cent.), expenses, &c., &c., &c. The way to test a low premium is by comparing it with an annuity. For instance, a person aged 30, pays to an Insurance Office one hundred dollars, for which they agree to pay him a certain rate of interest as *long as he lives*. The value of the annuity at 6 per cent. would be 13 years, with which divide the $100, and the amount of the annuity is seven dollars and seventy cents per annum. If the person then goes to a *low price* Insurance Office and insures his life for $100, so that at his death he will receive his money back; he pays a premium of $\$1\frac{68}{100}$ per $100, which, if deducted from the $7.70 annuity he receives, will allow him a clear interest for his money of $6.12 per cent. per annum.

Let us apply this test to the Insurance and Annuity tables of rates in use by an "everything Company," published with their prospectus, and of which the pamphlet now before me states "four editions of ten thousand each are completely exhausted."

The column headed nett interest of money, I have added that the reader may see at a glance the clear investment offered to him, should he imagine the possibility of any public stocks or mortgages that would yield such *enormous* interest, over and above the necessary 10 per cent. commission to agents and all other expenses. As the party would have his principal returned at death, I do not see how the clear investment at 30 years of age can be $\$6\frac{54}{100}$ per cent., and at 67 years of age $9.04, unless there is a preference given by mortgagees and fundholders to elderly gentlemen and ladies.

Showing the amount of Interest CLEAR *of all Expenses, which must be realized to pay the Annuity, and return the* $100 *at the death of the party.*

Age.	Insurance on $100, payable at death.	Annuity, payable on $100 during life.	Excess of Interest obtained by the party.
20	1.33	7.87	6.54
25	1.53	7.94	6·41
30	1.78	8.09	6.31
35	2.06	8.41	6.35
40	2.44	8.86	6.46
45	2.80	9.42	6.62
50	3.45	10.20	6.85
55	4.34	11.28	6.94
60	5.25	12.82	7.57
65	6.41	15.02	8.61
66	6.72	15.56	8.84
67	7.09	16.13	9.04*

* These gentlemen certainly must have been their own ACTUARIES. There is an old saying about a man being his own lawyer, which equally applies to Insurance. These persons must have had very funny ideas of life annuities.

That I may not be imagined to rest upon my own opinion, I would call attention to the following extract from the very valuable work on Life Insurance and Annuities, published by "the Society for the Diffusion of Useful Knowledge." Speaking of competition in Life Insurance, the author says:—

"The great evil to be apprehended from this competition is the reduction of premiums to such an extent as will prove incompatible with the permanent stability of the office; and already have one or two offices advertised rates, which, after deducting the commission allowed to agents, will be found at some ages less than the premiums obtained by calculating from the Equitable experience at 3 per cent. Another office which advertises the rates at which it will grant annuities and assurances, offers terms which in some instances allow an absolute interest of (equal to $5\frac{75}{100}$) £5 15*s.* per cent.; as an examination will show £100 may be laid out in the purchase of an annuity, out of the yearly receipts of which the premium for assuring the £100 in case of death may be paid, still leaving the difference, £5 15*s.* (equal to $5\frac{75}{100}$ per cent.), to be enjoyed by the party. It is scarcely necessary to state what must be the result.

Note by the Editor.—"This paragraph, which refers to the Independent West Middlesex, was written before that nest of ——— had run its race, and exposed in its true colours the gross fraud upon the public."*

Can any sane man imagine, when he insures his life, that the Company from whom he obtains his policy, are philanthropists who, out of their own pockets, intend to endow his widow and children with a competency? If there be any such, let him undeceive himself. The Company will pay only so long as the premiums paid by the insurers are equal to the losses, and what is of greater consequence, sufficient for *the expenses*.

In a low-priced office the climax will be arrived at in about 17 years, after which period there will be a deficiency, and the ruinous effects of too low a rate of premiums will become apparent to the public generally.

The insurer must remember that offices have unjustly refused, at the time of the death, to pay either the amount assured or to return the premiums, on the ground of error in the description of age—although no fraud was intended or reasonably suspected. Legal objections of a technical nature have frequently succeeded in inducing claimants to forego a part or the whole of their demands, without the office injuring itself by appearing to be of a litigious character. *And I have heard of an office the trustees of which boasted of their power to litigate a claim for three years.*

The number of offices which act upon these principles are few; but whilst such offices do exist, the public should be on their guard, and make the necessary inquiries before effecting any insurances with them.

These guarantee capital offices, note offices, loan premium offices, and 50 per cent. per annum (to say nothing of still larger) dividend offices, whether

* The above office, the Independent West Middlesex, is the one upon which Mr. Thackeray has founded his novel of "*The Great Hoggarty Diamond.*" By the Railway and Commercial Gazette, March 30, 1850, I perceive the Independent Mutual has just closed, by an act of bankruptcy, its philanthropic career "of very low premiums for the benefit of injured insurers."

they start as Proprietary or Mutual, are not legitimate Life Insurance Companies.

In ninety-nine cases out of a hundred, the only preference for the Mutual system is, that the first step, the CHARTER, can be procured from the Legislature without the expense of a dollar, there being no tax on their letters patent. The next thing is to obtain a Secretary or Actuary—on speculation; a President—on speculation; a Trustee, who is a printer,—on speculation; and the Company is organized—on speculation. If a sufficient amount of premiums are taken, the officers can be remunerated only by an appeal to a jury; if not, they are expected to work for promises. The Trustees give their names, but nothing else—and it is within my own knowledge that a chartered Life Insurance Company of the State of Pennsylvania did, through the Secretary, borrow one hundred dollars to pay the preliminary expenses of advertising their stock, not a single Trustee being willing to give a cent in advance for what they said might prove "a dead horse;" and yet, within twelve months this company had liabilities outstanding to the amount of $387,620, and in less than another twelvemonth, three supplementary acts to their original charter. On their last appearance at Harrisburg, in order to be made "a Mutual," the Pennsylvania Legislature required a statement of their assets, debts, and liabilities, which I now publish, as a specimen of what may be the actual funds of a Philadelphia Life Insurance Company. Strange it is that with such a statement as the following before them, any persons could be found with sufficient trust in the word "Mutual" to imagine that it possesses the power to galvanize a Company.

Presented to the SENATE *of the* LEGISLATURE *of the State of Pennsylvania, and referred to Committee of City and County, on application and grant of Mutual Principle.*

RECEIPTS OF THE EQUITABLE LIFE INSURANCE COMPANY TO 13TH OF APRIL, 1850.

Capital Stock (instalment received,) - - -	$15,800.00
Premiums received, nett in cash, - - - -	16,973.45
Interest received, - - - - - - - -	1,144.20
	33,917.65

ASSETS, APRIL 13, 1840.

$18.500 in Pennsylvania, City, Pittsburg, Cincinnati, Spring Garden and Kensington Stock. COST,	16,552.$\frac{84}{100}$
Bills receivable, - - - - - -	1,199.$\frac{21}{100}$
Mortgage, - - - - - - -	400.00
Cash, - - - - - - -	869.$\frac{06}{100}$
Bal. due on 1350 shares of Capital Stock, *liable to call* on 15 days' notice, $22.900	
	$19,021.81

May 5th, 1849—policies in force amounted to $387.620.

Certified by "the Secretary and Treasurer," to be a correct statement from the books of the Equitable Insurance Company.

Philadelphia, April 15, 1850.

April 13th, 1850—212 policies in force, amounting to $319,920.

If the assets ($19,021 81/100) are deducted from the receipts ($33,917.65), it gives the expenses $14,895 84/100.

The advertised capital stock of the Equitable (of Philadelphia) is TWO HUNDRED AND FIFTY THOUSAND DOLLARS, the whole amount paid in. See their Secretary and Treasurer's return to the Senate—is only *fifteen thousand eight hundred dollars!!!* To this $15,800 of capital stock, add $1144 *Interest*, and $16,973 *Premiums*, and the whole of their receipts to the 13th April, 1850, nearly two years, amount to $33,917. The available assets of the Equitable on the 13th April, 1850, consisted of $16,552 *Public Stocks*, $869 *Cash*, $400 *Mortgage*, and $1199 *Bills receivable*, making a grand total of $19,020.

By the return to the SENATE, 13th April, 1850, the total receipts were: $33,917

Total assets,	$19,020	
Expenses,	14,897	—$33,917

In becoming a "MUTUAL" it is worthy of consideration—against what fund the previous expenses of the Equitable will be charged? In accordance with the customs of LIFE INSURANCE, the capital stock of a Proprietary Company is liable, the stockholders having to bear the brunt of their own speculation. In this view of the case we have capital stock, $15,800

Known (?) expenses to 13th April, 1850,	14,897
BALANCE OF CAPITAL STOCK UNEXPENDED,	903

If the expenses are to be charged against the persons *already insured*, and the capital stock is looked upon as an *undiminishable and irresponsible fund*, the exclusive property of the stockholders, by virtue of which they claim 1530* votes, (that being the number of shares subscribed,) and the management of the Company; then, in that view of the case—

The gross amount of premiums received, is	$16,973
Known (?) expenses to 13th April, 1850, are	14,897
AND THE BALANCE OF PREMIUMS REMAINING, is	$2,076

However unpleasant the former position may be for the stockholders, the latter is infinitely worse for the INSURED, who have been innocent of any participation in the mismanagement, and therefore have a right to their funds whole and intact. The capital stock being expended (except $903), the business of the Company derived from the amount of Premiums is not sufficient to pay the expenses and do justice to the insurers; these expenses must eat up the premiums.† By their Secre-

* Ten dollars a share. Previous to this statement being laid before the SENATE, it was asserted three thousand shares had been subscribed, and that the premiums received were enormous. A few shares of the capital stock were offered at auction by Moses Thomas & Son, and found a *bona fide* bidder at—*four dollars a share.* A call for unpaid balance would test its value.

† My friend, R———, a clever actuary, of wide-established reputation, had the misfortune to take charge of a young Life Insurance in Westminster. The Directors were all wealthy men, of high standing in the world. R———'s predecessor had cut his throat; but that was supposed to have been the consequence

tary's statement to the Senate on the 13th April, 1850, there were only 212 policies in force; and the amount insured had *decreased sixty-seven thousand seven hundred dollars*, as compared with the 5th May, 1849, when the Company had only been eleven months in operation. Further comment is unnecessary.

Having demonstrated that "eighty per cent. scrip dividends," "note of hand payments," "low rates of premium," and the whole list of modern improvement in premiums, are not part and parcel of the scheme of Life Insurance, and must eventually lead to distrust and dishonour, it is necessary I should state how the PROFITS of a Life Insurance Company are to be ascertained. JONES, says that profits are "the accumulation of premiums in hand, *greater* than the amount which, according to the valuation, *ought to be reserved*, the *surplus* denotes so much *profit realized* by the Company, and as such, may be appropriated by them, *the sum remaining in hand being that for which an office charging similar rates would relieve them of their liabilities.*" P. 1093.

The premium on a policy granted at 30 years of age, being $2.36 per $100; at 40 years of age it would require a credit to *that policy* of 14\frac{20}{100}$ before any profit could arise; at 50 years of age, $36.40 to the *credit;* and at 60 years of age, $85 to the credit, as these would be the sums in hand, which would be required by an office charging similar rates, to relieve another office of their liabilities. The premium at 60 years of age, with profits, is 7\frac{47}{100}$—the interest of $85, at 6 per cent., is $5.11, which, added to $2.36=$7.47. If the reader will refer to the Table A, he will find that at 60 years of age, there are 559 persons surviving, and the accumulated fund of that year amounts to $47,836. If this is divided, it will give eighty-three dollars and eighty cents to the hundred dollars originally insured. The interest of this, 83\frac{78}{100}$, at 6 per cent., is 5\frac{02}{100}$, which, added to 2\frac{36}{100}$, the original premium, makes 7\frac{38}{100}$, the amount charged at 60 years of age, and which would be required by a prudent office, to take *good and bad lives*, but for which amount the same office could not guaranty the payment of accumulated profits, which, by a reference to Table A, will be found to be $93 in addition to the $100 originally assured. It has been before stated that 1\frac{29}{100}$, or 55 per cent. annually of the premium at 30 years of age, should be set aside to improve at 6 per cent. If this is done, at 40 years the accumulation (9 years) will be $14.82 per $100 insured, the sum required to transfer the liabilities being $14.20, together with the *current* premium. At 50 years of

of a constitutional melancholy. R——— had not been long in the office, when he discovered that the Directors were a regular set of "DESTRUCTIVES"—ignorant of the principles of Life Insurance, limited in their views, litigious and penurious. He, of course, knew what must be the result, but was determined not to follow his predecessor's example, or allow himself to be vexed, as the business was becoming "small by degrees and beautifully less." At last the climax arrived, and one forenoon R——— walked into the Board room, and with his usual good-humoured, jovial smile, blandly informed the Directors that "he had *just eaten the last premium for lunch*," and should be obliged by their further instructions. R———'s advice, when too late, was taken, and the office was "amalgamated." R———, in telling the story, always adds, "They only had two actuaries—the first cut his throat; the second cut his stick. I was the latter."

age, the $1.29, improved at 6 per cent., would amount to 48\frac{55}{100}$; the sum required to transfer the liabilities being 36\frac{46}{100}$ in *addition* to the current premium. This yields a *realized* profit to the Company, in the *twentieth year*, of 7\frac{13}{100}$ per $100, and considering the higher rates of premium in the first years of the existence of the LONDON EQUITABLE, afforded the 1½ per cent. dividend granted by them in A. D. 1782. It has been already shown that at the age of 49, the premiums and deaths being balanced, the association is at its highest state of prosperity.

The above is the only way in which the profits of a company can be ascertained. It requires the services of a regular actuary, and gives much trouble; but it ultimately saves a company from debt and dishonour, and the known prudence of the association more than repays, by the receipt of premiums, any expense which may have been incurred. A Life Insurance Company that cannot afford to pay for the services of properly qualified officers, cannot afford to incur liabilities which may amount in a very few years to from four to forty millions of dollars. The Bank, the Merchant, the Ship-builder, the Store-keeper, the Mechanic, the Government, do not take their officers or clerks on SPECULATION, and make their remuneration dependent upon the Proprietors having money at the end of the year to pay them. If they did so, they would be regarded as insolvent speculators, without capital. Why then should Life Insurance Companies, who charge twenty per cent. on every premium for expenses, who incur immense liabilities in their corporate character, be allowed to do that which no mercantile establishment could do and retain its credit for an hour? Any idler—any broken-down individual—is considered sufficient for the official duties of a Life Insurance Company—and the more inefficient the employee may be, the greater sympathy he obtains from his friends and patrons. The interests of the insured are never looked to for a moment, and the conclusive assertion, "*it will last my time*," is a sufficient apology from all concerned to their own consciences, for the mismanagement of the affairs of the corporation. I have heard of hospitals being built for fools, because, as they could not provide for themselves, the public were bound to do so; but Life Insurance Companies, where the interests of the widow and the orphan are held in sacred deposit, are the last places where protected incapables should be supported.

Before a dividend, bonus, or profit in any shape is declared by a Life Insurance Company, the amount of premiums received on *each* policy with compound interest must be ascertained. Then the sum which has been paid for expenses and deaths, is added to the amount to be reserved by the Company as the value of the policy; these are deducted from the compounded amount of premium, and the difference between them is the proportion of profit *realized* on the policy.

In the constitution of Life Insurance Companies in the United States, two most important *honorary* officers are invariably omitted. These are the AUDITORS to whom the Actuary's report is presented for examination before the general meeting (which the insured should insist upon) to be held each year.

The AUDITORS examine the Actuary's account—they have it proved—they make the Actuary explain the receipts, the compound interest, the

expenses, the valuation of policies, and the basis upon which he proposes to grant a bonus or dividend—and IF all this is satisfactory, they *sign* the REPORT, and thus sanction its presentation to the general meeting. The AUDITORS must be men of high commercial standing, and be paid for their examination of the accounts; but in all other respects, unconnected with the company. All dividends should be voted at general meetings, and the report of that general meeting should be printed for general circulation.*

I have now before me the prospectus of a Mutual Company of some three years' standing, which says (p. 21): "At the end of every year, should the losses of the company in that year fall short of the losses called for by the Carlisle tables of mortality, the trustees *shall pass to the credit of the sinking fund* a sum equal to the deficiency, and the sinking fund so credited shall be applied to the payment of losses which shall occur in any year over and above those called for in said tables, and *when the sinking fund exceeds one hundred thousand dollars, the board of trustees may, if they deem it expedient, divide the* EXCESS *beyond that sum as profits.*" By a reference to Table C, p. 16, it will be seen that this Company has not a *cent* to divide as profit, much less a sinking fund of one hundred thousand dollars, created by "the losses of the company falling short of the losses called for by the Carlisle table;" and never will have; and yet, they have twice declared dividends of eighty per cent. Had proper AUDITORS been appointed, could this have been the case? Would commercial men of standing have signed their names to a financial report, and taken the *onus* upon themselves of such dividends being declared? I think not.

It has been the policy of "Mutual" companies to create an opinion that "MIXED" or "Proprietary" companies charged not only too high rates of premium, but also made immense *profits!*† These new Mutual Companies therefore promised beforehand to divide—what might never have an existence, and what certainly cannot exist for several years to come. In reference to this point, the distinguished Actuary, Mr. Griffith Davies, remarks, "The evil of charging excessive premiums cannot, however, long remain in a country where capital is allowed to flow freely from one channel to another, as the natural effects of competition must necessarily reduce the profits on LIFE INSURANCE to the level of that derived from other species of investments; *on the contrary*, the peculiar nature of the subject renders it extremely dangerous lest the rates for life insurance should be so far reduced as to diminish the security of those who may select this mode of accumulating their savings for the benefit of their families; for, if the premiums charged by societies established for these purposes should, by excessive competition, be rendered inadequate to the payment of the claims which, sooner or later, must come upon them, whatever honour, wealth, or probity the present managers of them may possess—whatever capitals they may boast of—or however prosperous they may *appear* to go on, even for a considerable time—the result must ulti-

* The Actuary's report should be ready for the insured and stockholders at least ten clear days before the general meeting.

† As has been shown, the 5 per cent. guarantee (*no*) capital of a Mutual Insurance is exactly equal to eleven per cent. of a Proprietary (paid) capital.

mately terminate in LITIGATION, disappointment, and ruin; and instead of a national benefit, Life Insurance in such a case would inevitably become a national calamity."

The Pennsylvania Offices make no annual report—they declare a dividend—they assume a profit—but the insurer, the party most interested, has no means of knowing upon what data these profits are granted—the shadow may be thrown upon him to prevent his thinking of the substance; and for a few dollars—for four dollars and eighty cents per one hundred—paid to him personally, he sells the inheritance of his wife and children, their right to thousands of dollars. The judicious insurer may feel himself aggrieved by these *quasi* benefits thrust upon him—he may remonstrate, but he is bound hand and foot, the special legislation of this State having declared that no Insurance Company—whether Life, Fire, or Marine—chartered by the State of Pennsylvania, shall be required to publish its liabilities. They are declared solvent by the special act of the Legislature, and with this the insurer must be content, to whatever extent the bubble may be inflated.

The Legislature of Pennsylvania, acted upon by the Insurance Companies of Philadelphia, has passed many "special omnibus supplements," hostile to foreign Insurance Companies. But the subject of foreign insurance has never been brought openly before the Legislature as a part of the policy of the State, and has never been viewed by that body in its proper light, as requiring, not its hostility, but its non-interference—it has never been viewed as the ultimate means of relieving this State from a great portion of its debt by the investment of the accumulated funds in the public securities, and thus, by creating a demand for state stock, ultimately allow the interest to be reduced.

Far from even common toleration, every annoyance has been thrust upon the foreign offices—heavy taxation, amounting almost to prohibition, fines and penalties, and "PARTY" declarations of future special legislation under the influence of private individuals. Already the foreign offices have taken counsel of themselves—have taken counsel of the most celebrated constitutional lawyer of this country—and the reply has been, "Whatever tax the Legislature imposes upon Insurance Companies chartered by the State of Pennsylvania, foreign Insurance Companies must pay; all other taxes are *unconstitutional*." If an action for penalties is brought against an *alien*, he can at once remove the case into the Supreme Court of the United States, thus passing over all local prejudices or influences—divesting the case of "expediency"—and leaving the question on the true ground—CONSTITUTIONALITY.

The foreign Insurance Companies necessarily must at all times have a preference with the public over the new Insurance Offices of Philadelphia,*

* I confine my remark to new Insurance Offices as no imputation can be thrown upon the "Pennsylvania" or the "Girard," of resorting to the Legislature. The former office, chartered in 1812, declared this year, 1850, its first dividend of 2 per cent. per annum. The "*Girard*" also declared this year a dividend of 2 per cent. per annum for the last five years. Conduct like this deserves the confidence of the public. The National Loan Fund equally deserves the same praise.

if only for the simple reason that their charters are free from that incessant special legislation which renders the insurer in the home office constantly subject to have his property and his rights legislated away. It may suit the trustees of a Life Insurance corporation to have their defects, their squabbles, their ignorance, annually salved over by secret special enactments—but the public, the great body of insurers, do not approve of *their* contracts being hourly subjected to violation without their knowledge—without being consulted—and without their consent.

For the security of the insured, the capital stock of a Life Insurance company should consist of a large number of shares of small amount. The shares should be allotted, and not subscribed for; and the extreme number of shares in any person's hands should be limited.

By a large number of shares, the stock is distributed more equally amongst the public—by a low percentage paid up, it is within the reach of every one. Take a capital of one million dollars—divided into 40,000 shares of $25 each. Two dollars and fifty cents per share would make $100,000 paid in, and at any time should more capital be required, a call of FIFTY CENTS a share would produce $20,000. By the shares being allotted upon application, a solvent Proprietary is obtained, and the number of shares allotted to each person being limited to say one hundred, there is no difficulty in realizing any calls which may be made on the stockholders; and it effectually prevents a body of fourteen or fifteen persons, in whose hands a majority of a small stock—already eaten up by expenses—may be vested, from having an entire control over the affairs, and in operation rendering it a private institution with corporate powers and limited liability.*

Of all the evils of Life Insurance most to be dreaded—and to which small Proprietaries are peculiarly prone—is an inclination to LITIGATE. No man desires to leave a lawsuit as an inheritance to his widow and children. Yet, where a Life Insurance Company has an inclination that way, the best intentions of the insurer may be thwarted, and the machinations of a dishonest company be successful. A policy of Life Insurance is not, as generally supposed, a simple contract—but it is a contract upon a warranty. In effecting an insurance, four different papers are signed by four different parties, viz.: the applicant, the medical examiner, the family physician of the applicant, and by a personal friend; and these four papers must agree, or the warranty is bad, though three of the documents are never seen by the insured. If any fact is withheld, though *not material* to the cause of death, the policy is void. For instance, a man drowned at sea, having omitted to state that he had had an attack of gout, would void the policy; though the fact of his having had the gout, is not material to his being drowned.

It therefore behoves a person about to insure his life, to have special regard to the character of an office on this point: Should he find, on inquiry, that an office is inclined to litigate *any* claim—that the trustees prefer tedious and vexatious delay to arbitration—that they do not meet

* In such a case the trustees may exhaust the finances of a company in declaring dividends to *themselves*, to the ruin of the insured.

demands upon them *of whatever nature*, in a spirit of equity and liberality—that, rather than court inquiry into the justice of the claim, they endeavour to evade it by malicious insinuations or fraudulent trickery—in such cases, let the insurer avoid the office as he would a pestilence, no matter how tempting their offers may be.

The causes which chiefly lead to litigation are low premiums and high dividends or profits—and note of hand payments,* and all other modern "benefits," under whatever name they may be granted.† These are the overtrading of Life Insurance—and, to repeat the words of Mr. GRIFFITH DAVIS, "Whatever capitals they may boast of (*cash*), or however prosperous they may *appear* to go on, even for a considerable time—the result must ultimately terminate in *litigation*, *disappointment*, and *ruin*."

I trust I have now placed the principles of Life Insurance before the public in simple language that can be understood—and that the insurer will be able to form his own opinion of the office he insures in, without the interference of interested parties. If conducted upon sound principles, there is in fact no difference between the different systems of Proprietary and Mutual—the former charge less, the latter a higher rate of premiums. The former have a paid-up capital—the latter create their own capital from the excess of premium. If a Proprietary Company charge at 30 years of age, $\$2\frac{04}{100}$, and a Mutual Company $\$2\frac{34}{100}$, the difference is $\frac{30}{100}$ per $100 insured, or 16 per cent. excess upon the amount of premiums. If equally successful, and in the FOURTH year of their existence, the Proprietary Company receives $100,000 premiums, and has a paid-up capital of $100,000, the relative position to the Mutual would be that the Mutual would receive $116,000, of which sixteen thousand would be invested as *capital*, the remaining $100,000 being equally required by both companies to meet their *engagements*. If the premiums received remained the same in both institutions for 5½ years, the $16,000 per annum excess of premiums would, at compound 6 per cent. interest, accumulate to $100,000, and thus, at the termination of the TENTH year, both companies would be upon an equality. But the annual $100,000 would not be divisable for dividend or bonus until a fair valuation had been made of every policy. Mutual offices should pursue the rule laid down by Mr. BABBAGE in his account of the system of MUTUAL Assurance, wherein he observes, "A mistake not unfrequent, though one which ought to be most carefully guarded against, is the consideration of accumulated capital in the possession of a company at any period for the payment of its contracts, as the enjoyment of so much positive profit. * * * * * * * This accumulation is *capital*, liable to be reduced or expended in fulfilling the engagements of the society, and *not profit*, which may be fairly distributed among the members."

As yet, the subject of Life Insurance has been brought before the people of the United States only in its simplest form; and few persons

* The note of hand system of the United States is totally different from the "HALF CREDIT" of English offices, and the two must not be confounded together. The latter is only a five years' policy, the insurer paying a heavy fine should he wish at the expiration of that time to convert it into a whole life policy.

† A guarantee capital, added to a consumptive office, is like a stone thrown to a drowning man. The additional weight only sinks him the sooner.

have allowed themselves to inquire into the magnitude of this vast provident institution. However numerous Life Insurance Companies may be, they are part and parcel of the one system—the great national savings bank for the widow and orphan—the accumulated savings of twenty millions of persons. I have now before me twenty-two prospectuses of different offices, possessing on an average incomes exceeding seventy thousand dollars per annum, or one million five hundred and forty thousand dollars for the whole twenty-two. As doubtless there are other offices whose prospectuses I do not possess, the whole may be estimated at two millions of dollars per annum, as the present *limited* investment of the people in this description of security. After paying losses and expenses, therefore, for twenty-five years, IF these offices are solvent, they will possess amongst them accumulated funds liable for their contracts, of thirty millions two hundred and fifty thousand dollars; but if a healthy system is pursued, and this species of security is regarded with implicit confidence, as it should be by the provident, then the accumulated funds will not be less than from *three* to *three hundred and fifty millions of dollars;* and the liabilities which will be amply provided for, will amount to thousands upon thousands of millions of dollars eventually, to be distributed amongst the more unprotected and helpless portion of the community.

I would ask every thinking man in the community, therefore, if this subject of LIFE INSURANCE is not one which deserves the most patient and careful examination? If it be not of an importance second to none other in the States? requiring science, talent, and probity in its conduct? I demand of them whether the welfare of the community is not best consulted by the full exposure of every scheme which emanates from the ignorant pretender, and is foisted on the people by insidious and designing men? I would have the right-minded portion of society everywhere inculcate the true doctrine of Life Insurance, that, future benefit is incompatible with *present* dividends—that if the insurer accepts present dividends, his family must forego the future benefit. The premiums on life are calculated for the *future,* and if present as well as prospective benefits are required, other tables must be selected.*

All men of education and reflection should ponder well upon the advantages of Life Insurance, and should promulgate their acquired knowledge throughout the whole circle of their acquaintance. They should remember that it recommends itself in many instances not merely as a measure of expediency, but as a bounden duty—a duty easily discharged by the payment of a moderate sum. The question is, shall the married man trust the comfort of his family to a chance, albeit a promising one, or is he not rather bound to make sure of a provision as far as he can for his wife, his children, his helpless relatives, for all those dependent upon him for support, and, through the medium of Life Insurance, *assure* an adequate provision against impending poverty and irretrievable distress? How many men have I heard say, "Yes, but I want to insure for a large sum *when I*

*At the age of 30, the premium for a hundred dollars to be paid at 40 years of age, or sooner in case of death, is worth $11.17 per annum; yet, overreaching cupidity would induce some men to believe they can obtain an equal benefit for $2.36.

do insure, and it is not convenient now," and so, because the man cannot gratify his vanity and pay the life premium on $10,000 at an expense of two hundred dollars per annum—receive an eighty per cent. scrip dividend and give a promissory note—he dies and leaves his wife and child houseless, sorrow-stricken, and broken-hearted, thrust on the cold kindness of *quasi* charitable relations, without a cent to bury him or provide food for themselves—and this, because he, the loving and devoted husband, would not make even a temporary provision, consonant with his circumstances, for the wife who had been his nurse in sickness, his friend in distress, and whom he had sworn to cherish and protect—and by the payment of twenty or thirty dollars annually for seven years, secure two thousand dollars for her use, provided he should die within that period!

In those solitary hours when woman is left to her own reflections—when the busy and bustling husband is stirring with the world, and floating on the stream of an imaginary prospective affluence—how often does the future present itself to her view, unselfishly as regards herself—but painfully absorbing as regards her offspring! How can she bring the subject to her husband's notice without startling his affection, or in many cases without subjecting herself to a bitter and brutal insinuation? Her delicacy—her affection revolt from the idea of proposing to him the necessity of that which she feels to be his duty, and which he should be the first to suggest. She listens to his tale of future wealth and independence, of speculative thousands, and regrets to think that a paltry sum is withheld, which, under a sudden affliction, might be the saving of herself from destruction, her infant from a bleak and dreary childhood. The husband, if spoken to on the subject, often mistaking his wife's delicacy—his wife's diffidence—his wife's dislike to allude to a period which must bring to her so all-absorbing a loss—will declare that he "*has* spoken on the subject, and *has* been requested never to mention it again." Strange that *man*, who owes to his wife the chief charm of his existence, the every-day comfort of his life, should be able to look heartlessly to that period when their last parting shall take place—when removed to that world where, to him, all is hope and consolation—he shall have wilfully left her in darkness and desolation, steeped in poverty and wretchedness, to struggle with the hard justice of a hard-handed world.

Let woman speak for woman—let each urge the other's claim, and make selfish man comprehend that he has a conscientious course to pursue, a bounden duty to perform, in providing for those who constitute his "HOME;" and that, in "resorting to Life Insurance, he is risking nothing, but truly securing a certain profit upon that which is at all times an uncertain event."

The general uses of Life Insurance are too numerous to be repeated in this treatise; but the following will be found amongst the most frequent instances where its intervention is required:—It is applicable to the several purposes of raising money on loans, where personal security, only, can be offered;—of making and perfecting marriage settlements;—of securing the eventual payment of doubtful debts, due to individuals or bodies of creditors;—of enabling proprietors of real estate, charged with mortgages, or with portions, or other encumbrances, payable on the termination of their

own or others' lives, to answer the charges when they fall due;—of securing to parents the return of moneys paid as premiums for clerkship or apprenticeship, marriage portions, capital embarked in business, or other advances made for children, in the event of their premature death;—of reimbursing to the purchaser of any life-estate, or annuity, his principal, on the death of the person during whose life it was holden;—of rendering contingent property nearly equal, in point of security, to absolute property;—and, generally, as affording means of certain indemnity against any pecuniary loss, claim, or inconvenience whatsoever, to which one individual may became subject, by reason of the death of another.

When two young persons marry, and that essential ingredient to future enjoyment, money, is wanting on both sides—how estimable it would be for them to create a trust fund, and from the earnings of the husband, and by quarterly payments, secure a *small* sum, in the event of his death; limited as their income might be, this provision would always allow them, after deducting the amount of premium (about 2 per cent.), the free use of the remainder. There would be no necessity for a pinching parsimony; there would be none of those evils which sometimes result from a habit of too rigid saving; but the premium once paid, the sum insured (in a good office) would be secured beyond all possibility of risk,* and the husband would look honestly and fearlessly to the varied course of his daily duties, assured that if, in the all-wise dispensations of Providence, any accident should befall him, his home would not be rendered desolate, his property sacrificed, or his family distressed.

The table of the rate of Premiums may be depended upon, as offering to insurers a sound principle of Life Insurance, based upon a proper calculation of the risks to which a Life Insurance Company is always liable. But the Mutual rates do not afford more than a two per cent. dividend per annum at the *end* of five years. I would again remark, the rate of interest of the public funds and mortgages is a settled thing—the "tables of mortality" are a settled thing—the speculator, therefore, has only the third element, "expenses," to deal with.

The proper method of calculating and distributing these expenses are matters which do not fairly belong to this treatise, and for which I have not space; but in this, as in all cases, I shall be most happy to afford every information and assistance relative to Life Insurance (either verbally or by post), to the officers of distant institutions; to persons desirous of insuring their lives; or to those great public instructors, the NEWSPAPER PRESS; glad if at any time I can do aught to promote the advancement of a science so well adapted to the habits of economy and forethought of the people of this great republic, and at once put a stop to the evils which have arisen by a deviation from those principles of sound mathematical calculation, which are the only basis of LIFE INSURANCE.

* Where an industrious man has accumulated a small sum of money, for the future benefit of his family, by devoting the *interest* of such investment to pay the premiums, he at once attains his object. For example, if he has accumulated $500, the *interest* of which is $30 per annum; at 30 years of age, for this $30 he may assure for whole life $1888.80, or for a seven years' policy, $2300; which, added to his own $500 that he keeps in his own custody, will make a fair provision for his family.

EXPLANATION OF TABLES.

TABLE A.

5251 Individuals, age 37 by the Carlisle Tables, mutually insure each other in the sum of $100, each paying the annual premium of $2 $\frac{80}{100}$, and making annual dividends of 40 per cent. of the premium.

Insolvency at the commencement—Bankruptcy in the 21st year, and Ruin to all concerned in the thirtieth.

In this table the interest on the *premiums* is calculated at six per cent. for the whole year. The *expenses* are taken at 10 per cent. on the premiums of the current year, with six months' interest added; and the claims on *death* with four months' interest added. The premiums having been credited with the *whole year's* interest, whilst the sums paid for expenses and deaths have been disbursed at intermediate periods, this method of striking an average of interest has been deemed the most honest.

TABLE B.

Showing the Result of an Insurance effected on the Lives of 832 Persons, all aged 30 years—*Two* per cent. *per annum* to be added to each Policy of $100 at the Expiration of *every five years*. Premium $2 $\frac{86}{100}$ per $100.

Objections have been urged against this table that a Two per cent. per annum dividend every *five* years, "*is so mean*," that the calculation is useless. Yet, this *two per cent.* was the annual dividend of the always quoted successful London Equitable, and which dividend that office was *obliged* to stop, in 1815, from the majority of policy holders.

TABLE C.

Deduced from the published Statement of Assets of "the Penn Mutual," for the years 1848 and 1849, in accordance with the principles of Life Insurance, showing they have no profit, much less 80 per cent. dividend.

The supplementary remarks on this table will be found at pages 15 and 16, showing the result of their present 40 per cent. dividends.

TABLE D.

Table of the Rate of Mortality at Carlisle, commonly known as the Carlisle Tables.

The "Expectation of Life" at page 8 is what "Secretaries"—"Agents"—*Drummers*, and others, imagine to be the Carlisle table, and upon which the cheap premium offices invariable *assume* their calculations. "If a man has a right to *expect* to live so many years, the Table of *expectation* authorizes these offices in assuming *he will live*." By Table D will be seen the number of deaths in each year, which have to be provided for beside the expenses; items *invariably* omitted in the calculations of low premium offices.

TABLE E.

Exhibiting the LAW of MORTALITY AMONGST ASSURED LIVES according to the combined Town and Country Experience of Life Offices, deduced from 62,537 Assurances under the superintendence of a Committee of eminent Actuaries.

TABLE F.

Comparative Expectation of Life; showing the Expectation or Average duration of Life, deduced from Eight Original Tables prepared under the Superintendence of a Committee of eminent Actuaries, and compared with the Carlisle, Equitable, and Northampton Tables.

TABLE G.

Proper Premiums of Insurance of a *Mixed* Company, with a *Paid-up* Capital, on single healthy Lives, for *one* year, for *seven* years, and for whole term of Life, in the sum of $100.

TABLE A.

5851 Individuals, age 37 by the Carlisle Tables, mutually insure each other in the sum of $100, each paying the annual premium of 2\frac{90}{100}$, and making annual dividends of 40 per. cent. of the premiums.

Premiums on 5251 policies, with 6 per cent. interest,			16141	57
Expenses 10 per cent., with six months interest,	1568	47		
Claims, 57 deaths, with four months interest,	5814			
Dividend 40 per cent., on 5194 policies,	6025	04	13407	51
1st Year. Funds remaining at the end of the year,			2734	06
Interest on foregoing,			161	04
Premiums on 5194 policies, with 6 per cent. interest,			15966	46
			18864	46
Expenses 10 per cent., with six months interest,	1551	46		
Claims, 58 deaths, with four months interest,	5916			
Dividend 40 per cent., on 5136 policies,	5957	76	13425	21
2d Year. Funds remaining at the end of the year,			5439	25
Interest on foregoing,			326	35
Premiums on 5136 policies, with 6 per cent. interest,			15788	06
			21553	66
Expenses 10 per cent., with six months interest,	1534	12		
Claims, 61 deaths, with four months interest,	6222			
Dividend 40 per cent., on 5075 policies,	5887		13643	12
3d Year. Funds remaining at the end of the year,			7910	54
Interest on above,			474	63
Premiums on 5075 policies, with 6 per cent. interest,			15600	55
			23985	72
Expenses 10 per cent., with six months interest,	1515	90		
Claims, 66 deaths, with four months interest,	6732			
Dividend 40 per cent., on 5009 policies,	5810	44	14058	34
4th Year. Funds remaining at the end of the year,			9927	38
Interest on above,			595	64
Premiums on 5009 policies, with 6 per cent. interest,			15397	67
			25920	69
Expenses 10 per cent., with six months interest,	1496	19		
Claims, 69 deaths, with four months interest,	7038			
Dividend 40 per cent., on 4940 policies,	5730	40	14264	59
5th Year. Funds remaining at the end of the year,			11656	10
Interest on above,			699	37
Premiums on 4940 policies, with 6 per cent. interest,			15185	56
			27541	03
Expenses 10 per cent., with six months interest,	1475	58		
Claims, 71 deaths, with four months interest,	7242			
Dividend 40 per cent., on 4869 policies,	5648	04	14365	62
6th Year. Funds remaining at the end of the year,			13175	41
Interest on above,			790	52
Premiums on 4869 policies with 6 per cent. interest,			14967	31
			28933	24
Expenses 10 per cent., with six months interest,	1454	37		
Claims, 71 deaths, with four months interest,	7242			
Dividend 40 per cent., on 4798 policies,	5565	68	14262	05
7th Year. Funds remaining at the end of the year,			14671	19
Interest on above,			880	27
Premiums on 4798 policies with 6 per. cent. interest,			14749	05
			30300	51
Expenses 10 per. cent., with six months interest,	1433	16		
Claims, 71 deaths, with four months interest,	7242			
Dividend 40 per cent., on 4727 policies,	5483	32	14158	48
8th Year. Funds remaining at the end of the year,			16142	03
Interest on above,			968	52
Premiums on 4727 policies with 6 per cent. interest,			14530	80
			31641	35
Expenses 10 per cent., with six months interest,	1411	95		
Claims, 70 deaths, with four months interest,	7140			
Dividend 40 per cent., on 4657 policies,	5402	12	13954	07
9th Year. Funds remaining at the end of the year,			17687	28
Interest on above,			1061	24
Premiums on 4657 policies, with 6 per cent. interest,			14315	62
			33064	14
Expenses 10 per cent., with six months interest,	1391	05		
Claims, 69 deaths, with four months interest,	7038			
Dividend 40 per cent., on 4588 policies,	5322	08	13751	13
10th Year. Funds remaining at the end of the year,			19313	01
Interest on above,			1158	78
Premiums on 4588 policies, with 6 per cent. interest,			14103	51
			34575	30
Expenses 10 per cent., with six months interest,	1370	44		
Claims, 67 deaths, with four months interest,	6834			
Dividend 40 per cent., on 4521 policies,	5244	36	13448	80
11th Year. Funds remaining at the end of the year,			21126	50
Interest on above,			1267	59
Premiums on 4521 policies, with 6 per cent. interest,			13897	55

TABLE A. (*Continued.*)

6951 Individuals, age 37 by the Carlisle Tables, mutually insure each other in the sum of $100, each paying the annual premium of 2\frac{90}{100}$, and making annual dividends of 40 per. cent. of the premiums.

Brought forward,			36191	64	17th Year. Funds remaining at the end of the year,		34978 55
Expenses 10 per cent., with six months interest,	1350	42			Interest on above,		2098 71
Claims, 63 deaths, with four months interest,	6426				Premiums on 4143 policies with 6 per cent. interest,		12735 58
Dividend 40 per cent., on 4458 policies,	5171	28	12947	70			49812 84
12th Year. Funds remaining at the end of the year,			23243	94	Expenses 10 per cent., with six months interest,	1237	51
Interest on foregoing,			1400	64	Claims, 70 deaths, with four months interest,	7140	
Premiums on 4458 policies, with 6 per cent. interest,			13703	89	Dividend 40 per cent., on 4073 policies,	4724	68 13102 19
			38348	47	18th Year. Funds remaining at the end of the year,		36710 65
Expenses 10 per cent., with six months interest,	1331	60			Interest on above,		2202 64
Claims, 61 deaths, with four months interest,	6222				Premiums on 4073 policies with 6 per. cent. interest,		12520 40
Dividend 40 per cent., on 4397 policies,	5100	52	12654	12			51433 69
13th Year. Funds remaining at the end of the year,			25694	35	Expenses 10 per. cent., with six months interest,	1216	60
Interest on foregoing,			1541	66	Claims, 73 deaths, with four months interest,	7446	
Premiums on 4397 policies, with 6 per cent. interest,			13516	38	Dividend 40 per cent., on 4000 policies,	4640	13302 60
			40752	39	19th Year. Funds remaining at the end of the year,		38131 09
Expenses 10 per cent., with six months interest,	1313	38			Interest on above,		2287 86
Claims, 59 deaths, with four months interest,	6018				Premiums on 4000 policies with 6 per cent. interest,		12296
Dividend 40 per cent., on 4338 policies,	5032	08	12363	46			52714 95
14th Year. Funds remaining at the end of the year,			28388	93	Expenses 10 per cent., with six months interest,	1194	60
Interest on above,			1703	33	Claims, 76 deaths, with four months interest,	7752	
Premiums on 4338 policies, with 6 per cent. interest,			13335	01	Dividend 40 per cent., on 3924 policies,	4551	84 13492 64
			43427	27	20th Year. Funds remaining at the end of the year,		39216 31
Expenses 10 per cent., with six months interest,	1295	76			Interest on above,		2352 98
Claims, 62 deaths, with four months interest,	6324				Premiums on 3924 policies, with 6 per cent. interest,		12062 38
Dividend 40 per cent., on 4276 policies,	4960	16	12579	92			53631 67
15th Year. Funds remaining at the end of the year,			30847	35	Expenses 10 per cent., with six months interest,	1172	10
Interest on above,			1850	84	Claims, 82 deaths, with four months interest,	8364	
Premiums on 4276 policies, with 6 per cent. interest,			13144	42	Dividend 40 per cent., on 3842 policies,	4456	72 13992 82
			45842	61	21st Year. Funds remaining at the end of the year,		39638 85
Expenses 10 per cent., with six months interest,	1277	24			Interest on above,		2378 33
Claims, 65 deaths, with four months interest,	6630				Premiums on 3842 policies, with 6 per cent. interest,		11810 31
Dividend 40 per cent., on 4211 policies.	4884	76	12792				53827 49
16th Year. Funds remaining at the end of the year,			33050	61	Expenses 10 per cent., with six months interest,	1147	61
Interest on above,			1983	01	Claims, 93 deaths, with four months interest,	9486	
Premiums on 4211 policies, with 6 per cent. interest,			12944	61	Dividend 40 per cent., on 3749 policies,	4348	84 14982 45
			47978	26	22d Year. Funds remaining at the end of the year,		38845 04
Expenses 10 per cent., with six months interest,	1257	83			Interest on above,		2330 70
Claims, 68 deaths, with four months interest,	6936				Premiums on 3749 policies, with 6 per cent. interest,		11524 43
Dividend 40 per cent., on 4143 policies,	4805	88	12999	71			

TABLE A. (*Continued.*)

5251 Individuals, age 37 by the Carlisle Tables, mutually insure each other in the sum of $100, each paying the annual premium of $2 $\frac{90}{100}$, and making annual dividends of 40 per cent. of the premiums.

Brought forward,			52700	17
Expenses 10 per cent., with six months interest,	1119	83		
Claims, 106 deaths, with four months interest,	10812			
Dividend 40 per cent., on 3643 policies,	4225	88	16157	71
23d Year. Funds remaining at the end of the year,			36542	46
Interest on foregoing,			2192	65
Premiums on 3643 policies, with 6 per cent. interest,			11198	58
			49933	59
Expenses 10 per cent., with six months interest,	1088	16		
Claims, 122 deaths, with four months interest,	12444			
Dividend 40 per cent., on 3521 policies,	4084	36	17616	52
24th Year. Funds remaining at the end of the year,			32317	07
Interest on foregoing,			1939	02
Premiums on 3521 policies, with 6 per cent. interest,			10923	55
			45079	64
Expenses 10 per cent., with six months interest,	1051	72		
Claims, 126 deaths, with four months interest,	12852			
Dividend 40 per cent., on 3395 policies,	3938	20	17841	92
25th Year. Funds remaining at the end of the year,			27237	72
Interest on above,			1634	26
Premiums on 3395 policies, with 6 per cent. interest,			10436	23
			39308	21
Expenses 10 per cent., with six months interest,	1014	09		
Claims, 127 deaths, with four months interest,	12954			
Dividend 40 per cent., on 3268 policies,	3790	88	17758	97
26th Year. Funds remaining at the end of the year,			21549	24
Interest on above,			1292	95
Premiums on 3268 policies, with 6 per cent. interest,			10045	83
			32888	02
Expenses 10 per cent., with six months interest,	976	15		
Claims, 125 deaths, with four months interest,	12750			
Dividend 40 per cent., on 3143 policies,	3645	88	17372	03
27th Year. Funds remaining at the end of the year,			15515	99
Interest on above,			930	96
Premiums on 3143 policies with 6 per cent. interest,			9661	58
			26108	54
Expenses 10 per cent., with six months interest,	938	81		
Claims, 125 deaths, with four months interest,	12750			
Dividend 40 per cent., on 3018 policies,	3500	88	17189	69
28th Year. Funds remaining at the end of the year,			8918	85
Interest on above,			535	13
Premiums on 3018 policies with 6 per. cent. interest,			9277	33
			18731	31
Expenses 10 per. cent., with six months interest,	901	48		
Claims, 124 deaths, with four months interest.	12648			
Dividend 40 per cent., on 2894 policies,	3357	04	16906	52
29th Year. Funds remaining at the end of the year,			1824	79
Interest on above,			109	49
Premiums on 2894 policies with 6 per cent. interest,			8896	16
			10830	44
Expenses 10 per cent., with six months interest,	889	62		
Claims, 123 deaths, with four months interest,	12546		13435	62
Bankrupt the 30th year with 2771 claims unpaid—they *ought* at the end of this year to have a clear fund of			$158,940	40

I would have the reader observe that in the 22d year the expenses, claims, and dividends $ 14,982 45-100 — exceed the interest and premiums $14,188 64-100, and from that period the Reserve fund $38,845 04-100 decreases rapidly, and in the 30th year is completely absorbed, leaving *more than a half* of the original insurers without a cent. It takes two insurers to pay one claim, on a 40 per cent. dividend.

TABLE B.

Showing the Result of an Insurance Effected on the Lives of 832 *Persons, all aged* 30 *years*—TWO *per cent.* PER ANNUM *to be added to each Policy of* $100 *at the Expiration of* EVERY FIVE YEARS. *Premium* $2 $\frac{36}{100}$ *per* $100:

862 premiums at $2 $\frac{36}{100}$ per $100—$2034 $\frac{32}{100}$ per annum; forborne for 5 years, at 6 per cent. Compound Interest, - - -	11453.22
Age 35, - - 37 deaths, at $110 per death, - -	4070.00
Balance,	7383.22
Five years Compound Interest,	2436.39
Total,	9819.61
825 premiums at $2 $\frac{36}{100}$ per $100—$1947 per annum; forborne 5 years, at 6 per cent, Compound Interest, - - - - -	10961.61
Balance and five years Compound Interest,	20781.21
Age 40, - - 39 deaths, at $121 per death, - - - -	4719.00
Balance,	16062.21
Five years Compound Interest,	5300.46
	21362.67
786 premiums, - - - $1854 $\frac{96}{100}$ five years Compound Interest,	10443.42
Total,	31806.09
Age 45, - - 42 deaths, at $133 per death, - - - -	5540.00
Balance,	26266.09
Five years Compound Interest,	5667.80
	34933.89
744 premiums, - - - $1755 $\frac{84}{100}$ five years Compound Interest,	9885.37
Total,	44819.26
Age 50, - - 49 deaths, at $146 per death, - - - -	7154.00
Balance,	37665.26
Five years Compound Interest,	12428.42
	40093.68
695 premiums, - - - $1639.20 - - - - - - - - - -	9228.69
Total,	49322.37
Age 55, - - 61 deaths, at 160 per death, - - - -	9760.00
Balance,	39562.37
Five years Compound Interest,	13055.58
	52617.95
634 premiums, - - - $1495.24 - - - - - - - - - -	8418.25
Total,	61036.20
Age 60, - - 75 deaths, at 176 per death, - - - -	13200.00
Balance,	47836.20
Five years Compound Interest,	15785.94
	63622.16
559 premiums, - - - $1319 - - - - - - - - - -	7426.30
Total,	71048.46
Age 65, - - 92 deaths, at $193 per death, - - - -	17756.00
Balance,	53292.46
Deduct 5 per cent. for expenses for 35 years,	13786.47
	$39505.99

(3s)

TABLE B.

Showing what would be the result of a Two *per cent. Dividend—all the Lives becoming extinct in the due course of nature.*

Number of Policies at commencement,	862	
Deaths,	395	
Remain,	467	
Average amount left for each policy,	$84 60/100	39505.99
Five years Compound Interest,		13036.97
		52542.96
467 premiums annually, $1102. five years Compound Interest,		6204.93
Total,		58747.89
Age 70 years; 109 deaths, 212 per death,		23108.00
Balance,		35639.89
Five years Compound Interest,		11761.16
		47401.05
358 premiums annually, $844 68/100 five years Compound Interest,		4756.67
Total,		52157.72
Age 75 years; 117 deaths, $232 per death,		27261.00
Balance,		24896.72
Five years Compouhd Interest,		8215.91
		33112.63
241 premiums annually, $568.76 five years at Compound Interest,		3202.10
Total,		36314.73
Age 80 years; 109 deaths, at $256 per death,		27904.00
Balance,		8410.73.
Five years Compound Interest,		2775.54
		11186.27
132 premiums annually, $311 54/100 five years at Compound Interest,		1753.85
Total Cash,		12940.12
Claim age 85 years; 78 deaths, at $281 per death, (no assets)		21918.00
Bankruptcy and Deficiency, on above, 78 deaths,		$8978.12
Deficiency at 90 years of age, 41 deaths, 309 per death,		12969.00
Do. at 95 " " 12 deaths, 339 per death,		4068.00
Do. at 100 " " 1 death, 373 per death,		373.00
Thirty-five years' expenses as before,		13036.00
Total Deficiency,		*$39424.02

*Thirty cents extra, or $2.66 per $100, at the commencement, would have saved the Company. If the policies were for $5000 each, and the number of policies were 5200, the total Deficiency would be Eleven Millions Eight Hundred and Twenty-Seven Thousand Two Hundred Dollars!!!

TABLE C.

DEDUCED *from the published Statement of Assets of "the* PENN," *for the years* 1848 *and* 1849, *in accordance with the principles of Life Insurance, showing they have no profit, much less* 80 *per cent. dividend.*

1848.

Policies, 380; Receipts, $40000; Average Age, 43; Average Premium, $3 $\frac{50}{100}$ per $100,

Amount (*averaged as*) assured, $1,153,857		
Premiums, per statement, - - - - - - - -		$40,000
(*Average*) amount of Policies, $3000,		
(No. 1) 55 per cent for Deterioration of Life,	$24000	
Average Deaths, 4 by Tables of Mortality,	12000	
Expenses per statement, - - - -	7300	—$43,300
Deficiency,	$3300	

1849.

Old Policies, 380
New Policies, 540

920; Receipts, $70,000; Average age, 43; Average premium, $3.50 per $100.

Amount (*averaged as*) assured, $2,000,000		
Premiums, per statement, - - - - - - - - -		$70,000
Average amount of Policies, $2174,		
(No. 2) 55 per cent for Deterioration of Life,	$38500	
9 Deaths, by Tables of Mortality, -	19566	
Deficiency in 1848, - - - - -	3300	
Expenses, per statement, - - -	11277	—$72,643
Deficiency,	$2643,	

(No. 1) 1848. 55 per cent. Protection Fund, $24000
(No. 2) 1849. 55 per cent. Protection Fund, $38500

Total to be invested, - - - - - $62,500

Interest required for increase of Premiums on $62,500, at 5½ per cent. per annum, } $3427.00

Difference of Prem. between age of 48 and 44 on $856,148—$943.87
Do. Do. Do. 43 and 45 on $1,143,858—2516.36 $3460.23

Average amount of Deaths by Tables, and Average of Policies— } Deficiency, $33.23

1848 year—4 deaths; $3000 each, $12000,
1849 year—9 deaths; $2174 each, $19566—$31566

Deaths by Statement,	21000	By statement.	
Loss, which will be chargeable against prems. of 1849 in 1850 }	$10566	Investments, cash in hand, &c., &c. }	$57,72
(No. 1 & 2) 55 per ct. Protection, as above	$62500	Notes of hand and uncertain,	18,715
Deficiency of 1849,	2643		
	$75709		$76,437
		Loss and Protected Fund,	75,709
		Balance,	728

* The above shows the affairs of this Company to be in a *fair state*, with a promise of a prosperous future; but to attain that, they *must* retrace their steps, and abandon the 80 per cent. dividend and note payments, which, it is true, have not done much injury for the present, but if persisted in will be extremely injurious.

TABLE D.

TABLE OF THE RATE OF MORTALITY AT CARLISLE.

COMMONLY KNOWN AS THE CARLISLE TABLES.

Age.	Number alive in each year.	Deaths in that year.	Age.	Number alive in each year.	Deaths in that year.	Age.	Number alive in each year.	Deaths in that year.
0	10000	1539	35	5362	55	70	2401	124
1	8461	682	36	5307	56	71	2277	134
2	7779	505	37	5251	57	72	2143	146
3	7274	276	38	5194	58	73	1997	156
4	6998	201	39	5136	61	74	1841	166
5	6797	121	40	5075	66	75	1675	160
6	6676	82	41	5009	69	76	1515	156
7	6594	58	42	4940	71	77	1359	146
8	6536	43	43	4869	71	78	1213	132
9	6493	33	44	4798	71	79	1081	128
10	6460	29	45	4727	70	80	953	116
11	6431	31	46	4657	69	81	837	112
12	6400	32	47	4588	67	82	725	102
13	6368	33	48	4521	63	83	623	94
14	6335	35	49	4458	61	84	529	84
15	6300	39	50	4397	59	85	445	78
16	6261	42	51	4338	62	86	367	71
17	6219	43	52	4276	65	87	296	64
18	6176	43	53	4211	68	88	232	51
19	6133	43	54	4143	70	89	181	39
20	6090	43	55	4073	73	90	142	37
21	6047	42	56	4000	76	91	105	30
22	6005	42	57	3924	82	92	75	21
23	5963	42	58	3842	93	93	54	14
24	5921	42	59	3749	106	94	40	10
25	5879	43	60	3643	122	95	30	7
26	5836	43	61	3521	126	96	23	5
27	5793	45	62	3395	127	97	18	4
28	5748	50	63	3268	125	98	14	3
29	5698	56	64	3143	125	99	11	2
30	5642	57	65	3018	124	100	9	2
31	5585	57	66	2894	123	101	7	2
32	5528	56	67	2771	123	102	5	2
33	5472	55	68	2648	123	103	3	2
48	5417	55	69	2525	124	104	1	1

TABLE E.

NEW RATE OF MORTALITY.

Exhibiting the LAW of MORTALITY AMONGST ASSURED LIVES according to the combined Town and Country Experience of Life Offices, deduced from 62,537 Assurances under the superintendence of a Committee of eminent Actuaries.*

Completed Age.	Number Surviving at each Age.	Deaths in each Year.	Logarithm of Number surviving at each Age.	Completed Age.	Number Surviving at each Age.	Deaths in each Year.	Logarithm of Number surviving at each Age.
10	100000	676	5.0000000	55	63469	1375	4.8025617
11	99324	674	4.9970542	56	62094	1436	4.7930496
12	98650	672	4.9940971	57	60658	1497	4.7828881
13	97978	671	4.9911286	58	59161	1561	4.7720355
14	97307	671	4.9881441	59	57600	1627	4.7604225
15	96636	671	4.9851389	60	55973	1698	4.7479786
16	95965	672	4.9821129	61	54275	1770	4.7345998
17	95293	673	4.9790610	62	52505	1844	4.7202007
18	94620	675	4.9759829	63	50661	1917	4.7046738
19	93945	677	4.9728737	64	48744	1990	4.6879212
20	93268	680	4.9697327	65	46754	2061	4.6698188
21	92588	683	4.9665547	66	44693	2128	4.6502395
22	91905	686	4.9633391	67	42565	2191	4.6290526
23	91219	690	4.9600853	68	40374	2246	4.6061018
24	90529	694	4.9567877	69	38128	2291	4.5812440
25	89835	698	4.9534456	70	35837	2327	4.5543316
26	89137	703	4.9500580	71	33510	2351	4.5251744
27	88434	708	4.9466193	72	31159	2362	4.4935835
28	87726	714	4.9431283	73	28797	2358	4.4593472
29	87012	720	4.9395792	74	26439	2339	4.4222450
30	86292	727	4.9359705	75	24100	2303	4.3820170
31	85565	734	4.9322962	76	21797	2249	4.3383967
32	84831	742	4.9285546	77	19548	2179	4.2911023
33	84089	750	4.9247392	78	17369	2092	4.2397748
34	83339	758	4.9208483	79	15277	1987	4.1840381
35	82581	767	4.9168801	80	13290	1866	4.1235250
36	81814	776	4.9128276	81	11424	1730	4.0578182
37	81038	785	4.9086887	82	9694	1582	3.9865030
38	80253	795	4.9044613	83	8112	1427	3.9091279
39	79458	805	4.9001376	84	6685	1268	3.8251014
40	78653	815	4.8957153	85	5417	1111	3.7337588
41	77838	826	4.8911917	86	4306	958	3.6340740
42	77012	839	4.8865584	87	3348	811	3.5247854
43	76173	857	4.8818011	88	2537	673	3.4043205
44	75316	881	4.8768872	89	1864	545	3.2704459
45	74435	909	4.8717772	90	1319	427	3.1202448
46	73526	944	4.8664409	91	892	322	2.9503649
47	72582	981	4.8608289	92	570	231	2.7558749
48	71601	1021	4.8549191	93	339	155	2.5301997
49	70580	1063	4.8486817	94	184	95	2.2648178
50	69517	1108	4.8420910	95	89	52	1.9493900
51	68409	1156	4.8351132	96	37	24	1.5682017
52	67253	1207	4.8277117	97	13	9	1.1139434
53	66046	1261	4.8198465	98	4	3	0.6020600
54	64785	1316	4.8114745	99	1	1	0.0000000

* Messrs. Charles Ansell of the "Atlas," Griffith Davies of the "Guardian," J. J. Downs of the "Economic," Benjamin Gomperts of the "Alliance," George Kirkpatrick of the "Law Life," Joshua Milne of the "Sun," J. M. Rainbow of the "Crown," W. S. B. Wolhouse of the "National Loan Fund," and Samuel Ingall, of the "Imperial," Secretary to the Committee.

TABLE F.

COMPARATIVE EXPECTATIONS OF LIFE.

Showing the Expectation or Average duration of Life, deduced from Eight Original Tables prepared under the Superintendence of a Committee of eminent Actuaries, and compared with the Carlisle, Equitable, and Northampton Tables.

Completed Age.	Male Lives—Town, Country and Irish Experience.	Female Lives—Town, Country and Irish Experience.	Town Experience.	Country Experience.	Irish Experience.	Combined Town Experience.	General Experience.	Adjusted Experience.	Carlisle Experience.	Equitable Experience.	Northampton Experience.	Completed Age.
20	39.84	35.86	41.92	40.33	34.95	41.55	40 97	41 49	41.46	41.06	34.43	20
21	39.29	36.01	40 66	40 29	34.48	40 06	40.43	40.79	40 75	40.33	32.90	21
22	38.70	35 20	40 47	39 89	33.48	40.38	39.92	40.09	40 04	39.60	32.39	22
23	37.98	35.41	39.87	38 98	32 78	39.65	39.18	39.39	39.31	38 88	31.88	23
24	37.41	34.81	39.23	38.27	32.64	38.98	38.54	38.68	38.59	38.16	31.36	24
25	36.03	34.41	38.36	37.55	31.94	38.26	37.84	37.98	37.86	37.44	30.85	25
26	35 88	33.79	37.82	36.88	31.05	37.54	37.13	37.27	37.14	36.73	30.33	26
27	35 23	33.14	37.10	36.12	30 99	36 81	36.42	26.56	36 41	36.02	29.82	27
28	34 63	33.07	36.45	35.64	30.76	36.12	35.76	35.86	35 69	35.32	29.30	28
29	33 96	32.61	35.67	34.91	30.56	35.38	35.06	35.15	35.00	34.65	28.79	29
30	33.17	31.73	34.84	34.20	29.71	34.54	34.25	34.43	34.34	33.98	28 27	30
31	32 44	31.04	34.07	33.51	29 08	33.78	33.50	33 72	33.68	33 30	27.76	31
32	31.73	30.51	33.34	32.86	28.36	33.01	32.75	33.01	33.03	32 64	27.24	32
33	30 94	29.86	32.58	32.05	27.63	32.22	31.98	32.30	32.36	31.98	26 72	33
34	30 21	29.60	31.87	31.41	26.85	31.51	31.27	31.58	31.68	31.32	26 20	34
35	29.52	29.07	31.12	30.78	26.30	30 77	30.55	30.87	31.00	30.66	25.68	35
36	28 87	28.88	30.44	30.20	25.77	30.08	29.90	30.15	30 38	30.01	25.16	36
37	28 15	28 30	29 69	29.45	25 26	29.37	29.20	29.44	29 64	29 35	24.64	37
38	27 49	27 62	29.00	28 81	24.61	28.65	28 51	28.72	28 96	28 70	24.12	38
39	26.81	27.00	28.34	28.16	23.93	27.92	27.79	28.00	28.28	28.05	23.60	39
40	26.06	26 36	27.53	27.38	23.26	27.20	27.07	27.28	27.61	27.40	23.08	40
41	25 42	25.84	26.85	26.73	22.66	26.51	26.41	26.56	26 97	26.74	22.56	41
42	24 70	25.34	26.19	26.01	22.14	25.79	25.68	25.84	26.34	26 07	22 04	42
43	24 00	24.57	25 47	25.22	21.66	25.07	24.96	25.12	25.71	25.40	21.54	43
44	23 31	23 94	24.77	24.59	21.00	24.32	24.26	24.40	25.09	24.75	21.03	44
45	22 63	23.21	24 09	23 83	20 30	23.61	23.53	23 69	24.46	24.10	20 52	45
46	21.98	22.60	23 42	23.13	19.76	22.90	22.85	22.97	23 82	23 44	20 02	46
47	21 34	21.97	22.70	22.31	19.19	22.15	22.12	22.27	23.17	22.78	19.51	47
48	20 62	21.16	22 01	21.67	18.59	21.44	21.41	21.56	22.50	22.12	19.00	48
49	20 08	20.69	21 34	21.13	18.37	20.77	20.79	20.87	21.81	21.47	18.49	49
50	19 41	21.05	20.58	20.49	17.76	20.07	20.11	20.18	21.11	20.83	17.99	50
51	18 78	19.46	19.89	19.72	17.20	19.41	19.46	19.50	20 39	20.20	17.50	51
52	18.05	18 80	19.17	19.03	16.64	18.75	18.79	18.82	19 68	19.59	17.02	52
53	17 40	18.31	18 53	18.30	16 11	18.11	18.16	18.16	18 97	19.00	16.54	53
54	16 77	17.58	17.95	17.55	15.51	17.46	17.50	17.50	18.25	18.43	16.06	54
55	16 21	16 78	17.25	16.96	15.04	16.76	16.83	16.86	17.58	17.85	15.58	55
56	15 66	16.07	16.74	16.40	14.41	16.17	16.23	16.22	16 89	17.28	15.10	56
57	15 09	15.39	16.08	15.87	13.85	15.66	15.68	15.59	16.21	16.71	14 63	57
58	14 43	14.79	15.35	15.24	13 31	14.90	14.98	14.97	15.55	16.15	14.15	58
59	13 99	14.26	14.86	14.60	13 04	14.25	14.38	14.37	14.92	15.60	13.68	59
60	13.47	13.78	14.23	14.03	12.67	13.68	13.81	13.77	14.34	15.06	13.21	60
61	12 99	13.10	13.58	13.50	12.29	13.08	13.24	13.18	13 82	14.51	12.75	61
62	12.46	12.41	13.01	12.87	11.81	12.52	12 68	12.61	13 31	13.91	12.28	62
63	11.90	11 87	12.46	12.26	11.45	11.91	12 09	12 05	12 81	13 42	11.81	63
64	11.27	11.09	11.62	11.75	10.67	11.32	11.50	11.51	12 30	12.88	11.35	64
65	10.67	10 60	11.19	11.44	10.19	10.86	11.03	10.97	11.79	12.35	10.88	65
66	10.38	10.00	10 69	10 82	9.74	10 37	10.51	10.46	11.27	11.83	10 42	66
67	9.93	9.56	10.11	10.26	9.44	9.87	10.03	9 96	10.75	11.22	9.96	67
68	9 23	8.85	9.57	9 72	8 73	9 31	9.46	9.47	10.23	10.82	9.50	68
69	8.81	8.28	9.39	8 94	8.27	8.88	8.99	9.00	9.70	10.32	9.05	69
70	8.24	7.93	8 61	8.48	7.92	8.44	8.50	8.54	9.18	9.84	8.60	70
71	7.82	7.31	8.33	7.92	7.37	8.10	8.13	8.10	8.65	9.36	8.17	71
72	7.43	6.63	7.65	7.37	6.98	7.69	7.72	7.67	8.16	8.88	7.74	72
73	6 97	6.19	7 08	6.76	6.70	7.22	7.26	7.26	7 73	8.42	7.33	73
74	6 57	5.78	6.53	6.31	6 37	6.79	6.84	6.86	7.33	7.97	6 92	74
75	6 03	5 37	6 29	5.55	5.97	6.45	6.46	6.48	7.01	7.52	6.54	75
76	5.63	5.45	6.34	5.45	5 34	6.10	6.08	6.11	6.63	7.08	6.18	76
77	5.48	4.76	5.52	4.90	5.59	5.74	5.77	5.76	6.40	6.64	5.83	77
78	5.16	4.56	5.19	4.69	5.23	5.32	5.37	5.43	6.12	6.20	5 48	78
79	4.99	4.80	5.32	4.91	4.80	5.05	5.07	5.09	5 80	5.78	5.11	79
80	4.75	4.75	4.75	4.75	4 75	4.75	4 75	4.78	5 51	5.38	4.75	80

TABLE G.

Proper Premiums of Insurance of a MIXED *Company, with a* PAID-UP *Capital, on single healthy Lives, for* one *year, for* seven *years, and for whole term of Life, in the sum of* $100.

WITHOUT PROFITS.					WITHOUT PROFITS.				
Age.	Premiums for the term of one year.	Annual Premiums for the term of 7 yrs.	Annual Premiums for life.	WITH PROFITS WHOLE TERM.	Age.	Premiums for the term of one year.	Annual Premiums for the term of 7 yrs.	Annual Premiums for life.	WITH PROFITS WHOLE TERM.
14	$ 71	$ 83	$1 37	$1 53	38	$1 48	$1 68	$2 76	$3 01
15	78	86	1 41	1 57	39	1 56	1 75	2 86	3 11
16	83	88	1 45	1 61	40	1 66	1 81	2 95	3 21
17	87	89	1 48	1 65	41	1 77	1 84	3 05	3 31
18	88	89	1 52	1 69	42	1 84	1 86	3 15	3 41
19	89	90	1 56	1 73	43	1 85	1 87	3 24	3 52
20	90	91	1 60	1 78	44	1 86	1 88	3 35	3 63
21	91	92	1 64	1 83	45	1 87	1 89	3 46	3 75
22	92	94	1 69	1 88	46	1 88	1 90	3 59	3 88
23	95	99	1 74	1 93	47	1 89	1 91	3 72	4 02
24	98	1 04	1 79	1 99	48	1 92	1 93	3 87	4 17
25	1 01	1 09	1 85	2 05	49	1 94	1 96	4 04	4 35
26	1 09	1 15	1 91	2 11	50	1 97	2 03	4 24	4 54
27	1 14	1 20	1 97	2 17	51	1 98	2 15	4 43	4 76
28	1 21	1 25	2 04	2 23	52	2 00	2 32	4 66	4 99
29	1 27	1 28	2 10	2 30	53	2 08	2 54	4 87	5 24
30	1 30	1 31	2 16	2 37	54	2 18	2 82	5 13	5 50
31	1 31	1 35	2 22	2 43	55	2 31	3 14	5 39	5 78
32	1 32	1 39	2 28	2 50	56	2 45	3 48	5 66	6 09
33	1 33	1 42	2 34	2 57	57	2 70	3 84	5 98	6 42
34	1 34	1 45	2 42	2 65	58	3 11	4 20	6 29	6 77
35	1 36	1 48	2 50	2 73	59	3 64	4 53	6 60	7 12
36	1 39	1 53	2 58	2 82	60	4 31	4 80	6 94	7 47
37	1 42	1 60	2 67	2 91					

EXAMPLE.—A person 25 years old next birthday may for the sum of $10.10 insure his life for $1000 for *one year*, or the same sum ($1000) may be insured for *seven* years by the annual payment of $10.90. Or $18.50 paid annually till death, will secure the payment of $1000, whenever that event may happen.

Persons insuring under the "MUTUAL" rates, participate in the profits of the business of the Institution. But the stability and prosperity of an office depend in a great measure upon the annual increase in the number of insurers and the amount of new premiums, as it must be evident, where such an increase cannot be obtained, the expenses must eat into the income of the old business.